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Ontario Legislature Assembly

SESSIONAL PAPERS

VOL. XXXIII—PART VI.

FOURTH SESSION, NINTH LEGISLATURE

OF THE

31906
1901

PROVINCE OF ONTARIO.

SESSION 1901

TORONTO
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1901

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TORONTO.

LIST OF SESSIONAL PAPERS.

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ARRANGED ALPHABETICALLY.

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Assessment, Interim Report of Commission	44	*Printed.*
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*Printed for distribution only.

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San José Scale, Report	49	*Printed.*
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LIST OF SESSIONAL PAPERS.

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No. 1.. Public Accounts of the Province, for the year 1900. Presented to the Legislature, 13th February, 1901. *Printed*

No. 2.. Estimates (*Vote of Credit*) for the year 1901. Presented to the Legislature, 12th February, 1901. *Not Printed.* Estimates for the year 1901. Presented to the Legislature, 18th February, 1901. *Printed.* Estimates —Supplementary. Presented to the Legislature, 2nd April, 1901. *Printed.*

No. 3.. Report of the Commissioner of Crown Lands for the year 1900. Presented to the Legislature, 22nd March, 1901. *Printed.*

CONTENTS PART II.

No. 4.. Report of the Clerk of Forestry for the year 1900. Presented to the Legislature, 1st April, 1901. *Printed.*

No. 5.. Report of the Bureau of Mines for the year 1900 Presented to the Legislature, 21st March, 1901. *Printed.*

No. 6.. Report of the Commissioners for the Queen Victoria Niagara Falls Park for the year 1900. Presented to the Legislature, 19th March, 1901. *Printed.*

No. 7.. Report of the Commissioner of Public Works for the year 1900. Presented to the Legislature, 19th March, 1901. *Printed.*

No 8.. Report of the Inspectors of Factories for the year 1900. Presented to the Legislature, 1st April, 1901. *Printed.*

No 9.. Report upon the Registration of Births, Marriages and Deaths in the Province, for the year 1900. Presented to the Legislature, 13th February, 1901. *Printed.*

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No. 10.. Report of the Inspector of Insurance and Registrar of Friendly Societies for the year 1901. Presented to the Legislature, 1st April, 1901. *Printed.*

No. 11.. Report on the Financial Statements made by Loan Corporations for the year 1900. Presented to the Legislature, 1st April, 1901. *Printed.*

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No. 12.. Report of the Minister of Education for the year 1900, with the Statistics for the year 1899. Presented to the Legislature, 14th March, 1901. *Printed.*

No. 13.. Reports of the University of Toronto for 1900-1901. Presented to the Legislature, 22nd March, 1901. *Printed.*

No. 14.. Report of the Ontario Agricultural College and Experimental Farm, for the year 1900. Presented to the Legislature, 26th March, 1901. *Printed.*

No. 15.. Report of the Agricultural and Experimental Union of Ontario, for the year 1900. Presented to the Legislature, 6th March, 1901. *Printed.*

No. 16.. Report of the Fruit Growers' Association of Ontario, for the year 1900. Presented to the Legislature, 26th March, 1901. *Printed.*

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No. 17.. Report of the Fruit Experiment Stations of Ontario, for the year 1900. Presented to the Legislature, 26th March, 1901. *Printed.*

No. 18.. Report of the Inspector of Fumigation Appliances in Ontario, for the year 1900. Presented to the Legislature, 4th March, 1901. *Printed.*

No 19.. Report of the Entomological Society for the year 1900. Presented to the Legislature, 22nd February, 1901. *Printed.*

No 20.. Report of the Bee-keepers' Association for the year 1900. Presented to the Legislature, 26th March, 1901. *Printed.*

No. 21.. Report of the Poultry Associations of the Province, for the year 1900. Presented to the Legislature, 26th March, 1901. *Printed.*

No. 22.. Report of the Dairymen's Associations of Eastern and Western Ontario, for the year 1900. Presented to the Legislature, 26th March, 1901. *Printed.*

No. 23.. Report of the Live Stock Associations of the Province, for the year 1900. Presented to the Legislature, 26th March, 1901. *Printed*

No. 24.. Report of the Registrar of Live Stock in the Province, for the year 1900. Presented to the Legislature, 26th March, 1901. *Printed.*

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No. 25.. Report of the Superintendent of Farmers' Institutes of the Province, for the year 1900. Presented to the Legislature, 26th March, 1901. *Printed*

No. 26.. Report of the Bureau of Industries for 1900. Presented to the Legislature, 14th March, 1901. *Printed.*

No. 27.. Report of the Provincial Instructor in Roadmaking in Ontario, for the year 1900. Presented to the Legislature, 28th March, 1901. *Printed.*

No 28.. Report of the Ontario Game and Fish Commissioners for the year 1900. Presented to the Legislature, 29th March, 1901 *Printed.*

No. 29.. Report of the Department of Colonization and Immigration for the year 1900. Presented to the Legislature, 1st April, 1901. *Printed.*

No. 30.. Report of the Inspector of Division Courts for the year 1900. Presented to the Legislature, 15th February, 1901. *Printed.*

No 31.. Report of the Inspector of Legal Offices for the year 1900. Presented to the Legislature, 22nd March, 1901. *Printed.*

No. 32.. Report of the Inspector of Registry Offices for the year 1900, with statement of fees and emoluments of Registrars. Presented to the Legislature, 22nd March 901. *Printed.*

No. 33.. Report of the Provincial Board of Health for the year 1900. Presented to the Legislature, 22nd March, 1901. *Printed.*

No. 34.. Report of the Secretary and Registrar of the Province, for the year 1900 Presented to the Legislature, 22nd March, 1901. *Printed.*

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No. 35.. Report upon the Lunatic and Idiot Asylums of the Province, for the year ending 30th September, 1900. Presented to the Legislature, 13th February, 1901. *Printed.*

No. 36. Report upon the Common Gaols, Prisons and Reformatories of the Province, for the year ending 30th September, 1900. Presented to the Legislature, 3rd April, 1901. *Printed.*

No 37. Report upon the Hospitals and Refuges of the Province, for the year ending 30th September, 1900. Presented to the Legislature, 27th March, 1901 *Printed.*

No. 38.. Report upon the Institution for the education of the Blind, Brantford, for the year ending 30th September, 1900. Presented to the Legislature, 13th February, 1901. *Printed.*

No. 39. Report upon the Institution for the education of the Deaf and Dumb, Belleville, for the year ending 30th September, 1900. Presented to the Legislature, 13th February, 1901. *Printed.*

No. 40.. Report upon the work under the Children's Protection Act, for the year 1900. Presented to the Legislature, 14th February, 1901. *Printed.*

No 41.. Report upon the working of the Tavern and Shop Licenses Act, for the year 1900. Presented to the Legislature, 13th February, 1901. *Printed*

No. 42.. Report of the Provincial Municipal Auditor for the year 1900. Presented to the Legislature, 4th March, 1901. *Printed*

No. 43.. Return from the Records of the several Elections to the Legislative Assembly in the Electoral Districts of North Renfrew, North Waterloo, and Welland, since the General Election of March 1st, 1898, shewing:—(1) The number of Votes polled for each Candidate in the Electoral District in which there was a contest. (2) The majority whereby each successful candidate was returned. (3) The total number of Votes polled in each District. (4) The number of Votes remaining unpolled. (5) The number of names on the Voters' Lists in each District. (6) The population of each District as shown by the census. Presented to the Legislature, 7th February, 1901. *Printed.*

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No. 44.. Interim Report and Record of Proceedings, of the Commissioners appointed by Commission under the Great Seal to enquire into and report upon questions of Municipal Assessment and Taxation. Presented to the Legislature, 18th February, 1901. *Printed.*

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No. 45.. Report of the Librarian upon the state of the Legislative Library. Presented to the Legislature, 6th February, 1901. *Not printed.*

No. 46.. Report of the Commissioners in regard to the alleged offences and irregularities in the West Elgin Election. Presented to the Legislature, 13th February, 1901. *Printed.*

No. 47.. Report of the Bureau of Labor for the year 1900. Presented to the Legislature, 13th February, 1901. *Printed*

No. 48.. Report of the Sugar Beet Investigation. Presented to the Legislature, 28th February, 1901.

No. 49.. Report of the Inspector of the San José Scale for the year 1900. Presented to the Legislature, 2nd April, 1901. *Printed.*

No. 50.. Report of the Royal Commission on the Financial Position of the Province of Ontario. Presented to the Legislature, 21st February, 1901. *Printed.*

No. 51.. Report of the Survey and Exploration of Northern Ontario, during 1900. Presented to the Legislature, 2nd April, 1901. *Printed.*

No. 52.. Copy of Order-in-Council respecting payment to His Honour Judge Elliott, of Middlesex, of the surplus Surrogate fees of the County. Presented to the Legislature, 13th February, 1901. *Not Printed.*

No. 53.. Copy of an Agreement between the Inspector of Prisons and Public Charities and the H. A. Nelson & Sons Company, Limited, relative to the manufacture of brooms at the Central Prison. Presented to the Legislature, 14th February, 1901. *Not Printed.*

No. 54.. Return to an Order of the House, for a Return shewing the various unexpended grants to railways; the amounts authorized to be paid in cash subsidies, if earned, and grants of lands in the Province, if earned. Presented to the Legislature, 14th February, 1901. Mr. *Hoyle*. *Not Printed.*

No. 55.. Detailed Statement of all Bond and Securities, registered in the Provincial Registrar's Office during the year 1900. Presented to the Legislature, 20th February, 1901. *Not Printed.*

No. 56.. Return to an Order of the House, for a Return of a copy of the evidence taken before the Royal Commission for the investigation of the acts of the Returning Officer, Deputy Returning Officers and Poll Clerks, at the election held in the West Riding of the County of Elgin in the month of January, 1899. Presented to the Legislature, 27th February, 1901. Mr. *Whitney*. *Not Printed*

No. 57.. Statement as to distribution of the Statutes, Revised and Sessional, for the year 1900. Presented to the Legislature, 27th February, 1901. *Not Printed.*

No. 58.. Return to an Address, for copies of the Awards of the Arbitrators on the unsettled Accounts between the Dominion and the Provinces. Presented to the Legislature, 22nd March, 1901. Mr. *Matheson*. *Printed.*

No. 59.. Return to an Order of the House, for a Return shewing the amount of timber and saw-logs cut by the license holders on the road allowance in the Township of Grimsthorpe during the years 1899 and 1900, together with the

names of the foreman and jobbers by whom such timber was cut and the quantity cut by each. Presented to the Legislature, 12th March, 1901. Mr. *Allen* *Not Printed.*

No. 60.. Copies of Orders-in-Council, made under the authority of the Act respecting the Department of Education. Presented to the Legislature, 13th March, 1901. *Not Printed.*

No 61.. Return to an order of the House, for a Return of copies of applications for admission into Normal Schools for the year 1901; the date of such applications; the number and names of those admitted; the date on which said applicants were notified of their admission; the number and names of those rejected; the date on which said applicants were notified of their rejection; the cause of their rejection; the numbers of teachers in training, the Normal Schools can accommodate, and the number of teachers in training now actually in attendance at such Normal Schools. Presented to the Legislature, 13th March, 1901. Mr. *Barr.* *Not Printed.*

No. 62.. Return to an Order of the House, for a Return shewing the location of any Cold Storage Station, or Stations, established under Act of last Session, with amounts paid. Presented to the Legislature, 13th March, 1901. Mr. *McLaughlin.* *Not Printed.*

No. 63.. Return to an order of the House, for a Return of copies of correspondence between any member of the Government or the Provincial Board of Health, or any official thereof, and the Mayor of the City of Windsor, or any other person or persons, in reference to an outbreak of smallpox in the County of Essex in March, 1899. Presented to the Legislature, 15th March, 1901. Mr. *Lucas.* *Not Printed.*

No. 64.. Return to an Order of the House, for a Return of copies of all correspondence between the Government of the Province of Ontario, or any member thereof, and the Imperial Government, or any official thereof, or His Excellency the Governor-General of Canada, with relation to the establishment of a Remount Station in Canada. Presented to the Legislature, 15th March, 1901. Mr. *Whitney* *Not Printed.*

No. 65.. Return to an Order of the House, for a Return of copies of all correspondence between the Government, or any member thereof, or any person or persons, or corporations with reference to the employment of Aliens on the construction work of any railway in the Province. Also, for a copy of any report made to the Government, or any member thereof, by any person with reference to such employment. Presented to the Legislature, 19th March, 1901. Mr. *Wardell.* *Not Printed.*

No. 66.. Copy of an Order in Council, amending the rules and regulations for the control and working of the Provincial Diamond Drills. Presented to the Legislature, 21st March, 1901. *Not printed.*

No. 67.. Return to an Order of the House, for a Return of copies of all correspondence, or other documents, concerning the granting, or refusal to grant, a liquor license to either the British Hotel, or the Central Hotel, in the Town of Durham, during the years 1898 or 1899. Presented to the Legislature, 21st March, 1901. Mr. *Lucas.* *Not printed.*

No. 68.. Report of the Department of Fisheries, of Ontario, for the year 1900. Presented to the Legislature, 3rd April, 1901. *Printed.*

No 69 Return to an Order of the House, for a Return shewing the names and addresses of all parties to whom permits were granted during the year 1900, for the destruction of insectivorous birds, or birds' eggs, and shewing as well, upon whose recommendation such permits were granted. Presented to the Legislature, 22nd March, 1901. Mr. *Monteith. Not printed.*

No. 70. Report of District and Township, Agricultural and Horticultural Societies, for the year 1899. Presented to the Legislature, 25th March, 1901. *Not printed.*

No 71.. * Land Settlement in New Ontario, being a short account of advantages offered land seekers. Presented to the Legislature, 27th March, 1901. *Printed for distribution only.*

No. 72.. * Statement concerning the extent, resources, climate and industrial development of the Province. Presented to the Legislature, 27th March, 1901. *Printed for distribution only.*

No. 73 . Return to an Order of the House, for a Return, shewing the names and addresses of all parties tendering—where tenders were called for—for coal, wood and fresh meats, or any of them, for the uses of the Asylum at Brockville, during the year 1900, with copies of the tenders put in by each party tendering; copy of the specifications issued in each case, where tenders were called for, with the name and address of the successful tenderer in each case, together with the kind, quality and quantity of coal, wood or fresh meat, or any of them tendered for. Also the kind, quality and quantity of either of those items for which tenders were accepted in each case and the prices paid. Also the names and addresses of all parties supplying coal, wood or fresh meats, or either of them, without tender, during the above date at the Brockville Asylum, the kind and quantity by each person supplied and the price paid. Presented to the Legislature, 27th March, 1901. Mr. *Joynt. Not printed.*

No. 74 . Return to an Order of the House, for a Return, of copies of all correspondence between the Government, or any member or official thereof, and the Inspector of Public Schools in the County of Dufferin, or any other party or parties, respecting the refusal to pay over the Government grant to School Section No 7, of the Township of Melancthon, during the last five years Presented to the Legislature, 2nd April, 1901. Mr. *Barr. Not printed.*

No 75. Return to an Order of the House, for a Return shewing: 1. The amount of the bonuses of subsidies voted to Railways by this Legislature, each year, during 1898, 1899 and 1900. 2. The names of each railway and the amount voted to each, during the same period. 3. The amount paid to each railway during each of such years and the condition, or conditions, upon which such payments were made Presented to the Legislature, 4th April, 1901. Mr. *Joynt. Not printed.*

No. 76. Agreement between His Majesty, represented by the Commissioner of Crown Lands, and the Keswatin Power Company, Limited. Presented to the Legislature, 9th April, 1901. *Printed.*

No 77.. Return to an Order of the House, for a Return, of copies of all correspondence between the Government, or any member thereof, and the Crown Attorney of Halton, or any other person or persons, with reference to the collection of the fines imposed upon those found guilty of bribery in the last local election in Halton. Presented to the Legislature, 11th April, 1901. Mr. *Wardell Not printed*

Printed for Distribution only.

No. 78.. Return to an Order of the House, for a Return shewing: 1. How much money has been spent on Colonization Roads in the last seven years. 2. How many miles have been built during the same period. 3 What was the cost *per* mile, how much paid for labour; how much to overseers and commissioners, and to whom. 4. What amount was paid for surveys during the same period. Presented to the Legislature, 11th April, 1901. Mr. *Brower*. *Printed*

No. 79.. Return to an Order of the House, for Return of copies of all correspondence and papers between the Government, or any member thereof, or any Inspector of Factories, or Bureau of Labour, and any person or persons, firm or corporation, having reference to the enforcement, or non-enforcement, or the compliance or non-compliance, with the provisions and requirements of the Ontario Factories Act, during the years 1898, 1899 and 1900. Presented to the Legislature, 12th April, 1901. Mr. *Carscallen* *Not printed.*

REPORT

OF THE

SUPERINTENDENT

OF

FARMERS' INSTITUTES

OF THE

PROVINCE OF ONTARIO

1900.

PART I.

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE.)

PRINTED BY ORDER OF

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SEVENTH ANNUAL REPORT

OF THE

SUPERINTENDENT OF FARMERS' INSTITUTES

OF

ONTARIO

FOR THE YEAR

1900.

To the Honorable, the Minister of Agriculture:

SIR,—I have the honor to present herewith the Seventh Annual Report of the Superintendent of Farmers' Institutes.

I have the honor to be, Sir,
Your obedient servant,

G. C. CREELMAN,
Superintendent.

TORONTO, May 1st, 1901.

FARMERS' INSTITUTE MEMBERS INSPECTING THE EXPERIMENTAL PLOTS AT THE ONTARIO AGRICULTURAL COLLEGE, GUELPH, JUNE, 1900.

FARMERS' INSTITUTES OF ONTARIO.

REPORT OF THE SUPERINTENDENT.

In presenting this, my second, annual report, it again affords me pleasure to record a successful and progressive year's work. There has been a decided increase in membership ; unusual interest shown in the meetings, and a generally increased desire on the part of the farmers of the province for further instruction on matters pertaining to farm life and work.

A New Departure. In order that the printing of the sessional papers may not be delayed, the Premier has requested that hereafter our report should be published early in the year, rather than in the autumn, as has been the custom heretofore.

It has been usual to publish a report of each local Institute in detail, but as these reports are prepared at the annual meetings, which do not take place until June, it is not possible to publish them at this time. It is proposed, however, to publish such statistics in our annual bulletin, which is issued each year about the 1st of November.

Annual Meetings. Arrangements have already been made for a number of the Institutes to hold their annual meetings at the nearest Fruit Experiment Station. The directors of these stations have entered very heartily into the project, and we expect that the Institute members will be instructed, as well as interested, in the demonstrations of pruning, grafting, budding and spraying at this meeting.

Poultry. At a number of meetings held in different parts of the province during the past winter, poultry has been the special subject for discussion. In order to obtain reliable data, a series of poultry experiments were conducted, under the joint auspices of the Farmers' Institute and the Ontario Poultry Association. A full report of these experiments will be found in the report of the Secretary of the Poultry Associations.

At these special poultry meetings Mr. W. R. Graham, Manager of the Poultry Department of the Ontario Agricultural College, Prof. A. G. Gilbert, of the Experimental Farm, Ottawa : Mr. J. E. Meyer, of Kossuth, and Mr. G. R. Cottrell, of Milton, led in the discussions. The meetings were all of a practical nature, the speaker having live birds before him, which were afterwards killed, plucked and dressed, according to the requirements of the home and foreign markets. These poultry meetings became so popular that we have already many requests for similar meetings next year, and as there seems to be a rapidly increasing trade for this form of farm produce, we propose to continue special poultry meetings next season.

Horticultural Societies. At the request of the Ontario Fruit Growers' Association you saw fit during the past year to transfer the lecture work in connection with the Horticultural Societies to the Department of Farmers' Institutes. We have arranged and held thirty successful meetings. In the programme of these meetings some changes were made. Instead of one speaker, as heretofore, two delegates were sent, one lady and one gentleman, and whereas up to this time evening meetings only were provided for in each place, it was arranged this year that the delegates should address the school children in the afternoon. Several Secretaries have written us to say that the innovation has been a most pleasing one, and that they hope the same arrangements will be made again next year.

Women's Institutes. Last June we addressed a letter to the women of Ontario, asking their co-operation in the formation of Women's Institutes, as far as possible one in each riding, as the Farmers' Institutes are established now. We hoped by interesting the officers of the Farmers' Institutes in the work, to see at least a dozen Women's Institutes organized during the year. We were hardly prepared, however, to see the ladies take the matter up so enthusiastically, and we are pleased to report that thirty-one Institutes are now organized, and holding meetings once a month. Some of these organizations have already over one hundred members, and are doing excellent work.

A special report was published for them this year, and their members also received a copy of the report of the Experimental Union, which contains the addresses, delivered during the time of the annual meeting of the Union at Guelph in December, by such well-known ladies as Mrs. E. L. Richards of Boston, Mass., Mrs. Hoodless, of Hamilton, Miss Laura Rose and Miss Blanche Maddock, of Guelph.

Excursions to Ontario Agricultural College. Many thousand farmers again took advantage of the cheap excursion rates and visited the Agricultural College during June. The popularity of this institution continues to increase year after year, and already every date between June 12th and 30th, inclusive (Sundays excepted), has been secured by some Institute for an excursion this year.

Provincial Winter Fair. We started early last year to advertise the Provincial Winter Fair, and to endeavor, as far as possible, to secure the attendance of a large number of Institute members. The Fair Board allowed each Institute the privilege of free admission to all its members, on payment of five dollars. Thirty-four Institutes took advantage of this offer, and 1,518 members passed through the gates. We have heard nothing from these members but the highest praise as to the management of the Fair, and the educational phases thereof.

All of the speakers who were to address Institute meetings during the winter also attended the Fair and the annual meeting of the Experimental Union, which was held at the college during the same week.

A special programme was provided for the Institute workers, and the following speakers delivered instructive addresses, viz. : The Hon. Minister of Agriculture for Ontario ; Dr. James Mills, President of the Ontario Agricultural College ; Prof. I. P. Roberts, of Cornell University ; Mr. F. W. Hodson, Dominion Live Stock Commissioner ; Professors G. E. Day, J. B. Reynolds, H. H. Dean, C. A. Zavitz and W. R. Graham, of the Ontario Agricultural College ; Mr. Thos. Southworth, Director of Colonization and Forestry for Ontario ; Mr. Thos. Crawford, M.P.P. ; Mr. W. A. Clemons, St. George, and Mr. Dan. Drummond, of Myrtle.

Extension of the Work. One new Institute was organized during the past year, namely, "West Nipissing." The Superintendent attended the organization meeting at North Bay, and afterwards meetings were held at Warren, Sturgeon Falls, North Bay and Cache Bay. This is a portion of new Ontario where considerable settlement has been made within the last few years, and our efforts to help them in the way of better methods are being appreciated.

Special meetings were also held at Port Arthur, Fort William, and the adjoining settlements of Murillo, Haymer and Slate River. A splendid meeting was also held at Dryden in March, 170 people being present.

Seed Fairs. Four Institutes, namely, East York, South Wellington, West Wellington and South Grey, have each established an annual seed fair, in March, which is reported as a supplementary meeting. The farmers of the vicinity bring in their best samples of grain, and each sample is labelled with the owner's name and address, the amount he has to sell, and the price at which it can be secured. A competent judge awards the prizes, and gives his reasons for doing so. A practical grain grower gives a talk on the best varieties of grain for that particular section, and the members arrange to buy or exchange these varieties with one another before seeding time.

Cold Storage. The subject of cold storage and transporting and marketing of our perishable products has been a favorite theme at Institute meetings this year.

During the meeting of the Experimental Union all of the delegates visited the new cold storage plant at the Agricultural College, and were instructed in the different processes of refrigeration by the Professor of Physics. They also inspected the special car, which was fitted up under your direction for the carrying of perishable fruit from the Niagara Peninsula to Montreal, for shipment to the old country. Each member of the staff also received copies of the pamphlet describing the Hanrahan system, and the pamphlet on Cold Storage and the Utility of Collecting Stations. They were thus well equipped for their work, and from reports received, much valuable information on this subject has been distributed, and has been well received.

Association of Canadian Fairs and Exhibitions. At the last meeting of this association, held at the Old Court House, Toronto, on February 20-21, 1901, the Superintendent of Farmers' Institutes was appointed assistant secretary and editor of the association. A number of valuable papers were read, and some excellent addresses delivered by the former Superintendent of Farmers' Institutes, Mr. F. W. Hodson, Mr. C. C. James, Capt McMaster, and others. We are now at work upon the report, which we hope to have ready for publication at an early date.

All of which is respectfully submitted,

G. C. CREELMAN, Superintendent.

AGRICULTURE.

ADDRESS TO FARMERS' INSTITUTE WORKERS.

By the Hon. John Dryden, Minister of Agriculture for Ontario.

The following is the practical address delivered to Farmers' Institute workers by Hon. John Dryden, Minister of Agriculture for Ontario, during the Provincial Winter Fair, held in the City of Guelph, December 12-15, 1900 :—

Years ago I sometimes said that there were two classes in the community that I felt were more important than any of the others. These were the teachers and the farmers. The teacher, who had charge of the children from three to six hours per day, was more intimately connected with them, probably, than even their parents, and frequently had more to do with the formation of their characters. In a properly-organized home that that may not be so, but, as a matter of fact, I think I was right in that statement. The farmers occupy a similar position of importance, because they are the builders of the material prosperity, without which we cannot expect to be a great people. If I was right in that conception, I want to show that the Institute workers combine these two things. They are usually farmers, and they are also teachers. So that, looking at it from this point of view, they are doing a great deal towards the formation of character in this country, and, perhaps, a great deal more towards advancing the material prosperity of the country.

Any of us who go about the country will recognize, I think, that we are making improvement. I go about a great deal and see improvement in various lines—in the cultivation of the soil, in the neatness of the home surroundings, and in the care of implements. I am sure we have made great improvement in the economical feeding of animals, and in this I think we are working along special lines, with a definite purpose in view. What means have brought about these improvements ? I have no hesitation in saying that all this is largely the result of the work of the Farmers' Institute. The human animal is in one sense like the animals of the field : he has a disposition to run in flocks. One farmer helps another ; one farmer follows another. Let a farmer start to fix up his home surroundings—put up a respectable fence—and it looks so nice and pleasant that a thousand to one if the farmer's neighbor does not do it, his wife and his daughters compel him to do it. So the influence extends. You teach one farmer's wife to make better butter, and she becomes an educator in the community. Although the Farmers' Institute delegates may not be able to accomplish at once all they desire, even if they are able to influence a few men in a township, they have started the upward progress.

The Far-reaching Power of the Press. While I am giving credit to the Farmers' Institute, I do not forget that the effect is lost to a certain extent unless we receive the aid and the benefit of our agricultural journals and the journalism of this country. You talk to a few, but the newspaper talks to hundreds and thousands. The travelling dairy did a good work, but the work would not have been so beneficial have it not been for the assistance given by the newspapers of Ontario. It was pointed out to those in charge that the people would go and listen to what was said, but, if they never heard anything about it again, the tendency would be that they would forget, and that what they had heard would pass out of their minds. So what did we do ? We sent to the leading newspapers an account of each meeting. We went to the editors and told them what we were trying to do. We said, "Will you help us ?" They said, "Yes ; send on your reports of addresses and we will put them in." The people read these accounts day after day, and week after week, and began talking about them in the stores, in the blacksmith's shop, in the homes. We took good care they should not forget them, and in that way we worked up public opinion all over the country.

Take the subject of better roads. We have been trying to cultivate public opinion along that line. We cannot do it without the press. Use the press, and use them well. They deserve great credit. Do not hesitate sometimes to speak to a reporter and tell him you are delighted with the work he has done. Sometimes they do not realize how much service they are doing for their country. There is before me just now a gentleman who, I think, is doing as much good in this country as any of us. We have here a man who has the instinct for journalism, who will seize the salient point and give it to the people in such a way that they will "catch on." You should not fail as Institute workers to use the press, because it is a great aid in all educative work.

Let the Addresses be in Line With the Needs of the District. As Farmers' Institute speakers and workers, I know how you feel and what your desires are. I have been

there myself. If you are to do your best work, you must bring to bear the same principles that you employ in the industry of agriculture or in any other line of business. I am a great believer in having a definite purpose before me—in having an ideal towards which we are to reach. You cannot accomplish anything in Institute work without it. What do you want to accomplish ? I should like if we had time to stop and ask each one : What are you trying to do ? Unless we know that, we cannot tell what course to take. Say you are going into any county and are a stranger, and I ask that question. I am afraid you could not answer. You would need first to inquire : What are the particular needs of this district ? All districts are not alike. What would be suitable in the County of Essex would not be suitable in the county of York. The situation is different, the climate is somewhat different, and the management of the farm is perhaps different to what it is elsewhere. Unless you put yourself in communication with someone who can give you information you are likely to be led entirely astray. If I go into a district where the land is wet, and talk about the cultivation of the soil, my argument is lost, because those who are listening to me are not in a position to benefit from what I am saying. I ought to talk about drainage ; that would be the need of the district. The Institute officers recognize that, and would help you and give you information.

Go into a district that is devoted to dairying and talk about beef production, and your usefulness is lost. Or you may go elsewhere and enter into a discussion of the sheep industry, and there may not be a sheep in the county. You are liable to make mistakes of this kind unless you take the trouble to understand what the needs of that particular section are. Of course there are general lines that are applicable everywhere, and some of us used to talk too often on these general lines. But the people have got beyond that. What they want is help, and they look to you to give it.

Supposing you have discovered the need of a particular section, let me suggest a few general principles. You ought to first recognize the intelligence of your audience. The men who make up your audience may be a little bent in form and have a shuffling walk, and not be dressed very stylishly. But do not make the mistake of supposing that these men are not intelligent. If I want an intelligent audience that will grasp the point I am trying to make, give me an audience in the country, and not in the town. If you recognize the farmer's intelligence and give him something useful, he will stay there for hours in order to receive it. You have seen evidence of that at these meetings.

Tact and Patience Necessary. You will also require to show a great deal of tact and to have a great deal of patience, and treat the people with kindness all the way through. A young man gets up and asks a question. The question to you appears a little silly. Do not play the smart politician and give him an answer that makes him ashamed he came. I have seen it done. I would rather go up and take him by the hand and try to help him out. He wants information, but he has not quite as much knowledge as you have, and perhaps has not put his question exactly as he should have put it. It is the business of the Institute workers to help him out. We must not be too "stuck on ourselves." It is a bad thing to be egoistical ; I would rather see a man excessively humble. When we know a thing, and know that we know it, we hold our ground, but do not let it appear that we want to spread ourselves.

You wish to make a success of your Institute work. But I should like to ask, "What is success ?" Is it to have a nice entertainment—lots of music—funny stories ? People go away and say, "We have had a good time." If that is success, you will have to move in a different direction to what I am suggesting. That is not what we are aiming at. If I felt that the Institute system could not accomplish anything more than that, I should feel that I had no excuse in asking the Legislature to vote money for he purpose.

The Success of a Meeting to be Judged by Results. There are numerous other places where they can get this entertainment. While I am not averse to something in that line, I do not think that kind of an Institute meeting ought to be considered as a successful one. Even if you have an immense crowd, that does not always mean success. Success is making such an impression on the people there assembled, and giving them such information as will lead to change in methods, resulting in a definite improvement that you can see when you go back again. If you have visited any section, and have so labored that you can see improvement when you go back, you have made a success of your meeting. I do not care if there were only ten people there. Cling to the idea of helping the people, and let them go elsewhere for their fun. There never was a time when the farmers were so eager for information to help them out of their difficulties.

What we are after in this country is better production—greater production—improved production. What we want is that all our farmers should be seized with the idea that it is to their interest and part of their duty to produce more than they are producing, and to produce it of a better quality. If you can do anything towards accomplishing that, you have done a great deal.

The Institute has already been of incalculable benefit to the farmers. I saw a man here who was at an Institute meeting I attended in Georgetown fourteen years ago. It

was the worst meeting I ever addressed, and I thought I had made a failure of it. I could not make any visible impression on the audience, and I said to myself, "You are the hardest crowd I ever tackled." But I kept at it and tried to do my duty, and I evidently succeeded in making some impression, as this man has not forgotten it to this day. We have all made impressions when we did not realize it ; but we have not reached nearly all the people ; there are still many who have never attended an Institute meeting, and who really want help, and are away behind in their methods. There is a great deal of work yet to be done.

More Home Life and Beneficial Amusements Needed. What are the influences we want to bring to bear, say, on our young men ? Especially around some of the towns and villages the young men are what I should call a little too giddy—there is a lack of earnestness. I often say to my wife that half the people in our village are contriving some scheme for an entertainment out of which nothing good comes. There is no real home life. There is a great need for cultivating home life in this country. Farmers' Institute workers can do something in this direction. Let the city people go out to the theatre and the dance as much as they like. Let us see if we cannot keep our boys and girls some of the time in the home. If there is anything that has done service for the Scotch people, it is the fact that they have such a splendid home life. We need to have some time when we can do a little quiet thinking—when we can get away from the rest of the world ; and we need to devote some time to the reading of the best books and periodicals. Any man who is going to be a farmer, and spends all his time down at the village, and never reads a particle, will be away behind in the race ; he will not be prepared to do his duty.

By all means have a little music in the home. I have heard with indignation the statement that farmers would be as well off to-day as they were a generation ago if they did not spend so much money on pianos and organs. The farmer has as much right to these things as any other man, and no one needs it more. I do not want to force them to go into the town to get a little amusement of this kind, which is all very helpful. The farmer should be able to provide such amusements and entertainments in his home ; otherwise the young people will be tempted to seek it elsewhere. As a result they are away from their homes all the time, and the spirit of giddiness gets possession of them. The drift of our people generally to-day is away from home life. I like to see a young man ambitious, but I want to direct his ambition. The highest ambition for a young man in this country is not to be a millionaire, but to make a home, and to make a home for some decent, good-looking girl who lives in the neighborhood or elsewhere. When I have the young man on the right track, I would say to the young woman, "You should have an ambition, too, and it should be to keep the home after it is made." Some of our young women are getting away from this thought, and have other ideals, which are not the correct ones. Unless this is checked it will lead us away from the track that will make of this people a great nation, although it may take a century to do it. Keep the home. I do not want to see any young lady going where she will be a slave. I have a great sympathy for the women on the farms of this country. I love the women. I think they are deserving of our respect and our help. You have no right, young man, to undertake to make a young woman your servant in your home. She is to be your helpmate. Take her into your councils ; she is as much interested in the work and its proceeds as you are. You should recognize that marriage is a partnership.

Intelligence in Business. Then we ought to impress upon our people the need for intelligence in carrying on their business. You all heard Mr. Flavelle speaking the other evening. There is a business man, who brings intelligence into every branch of his work. The farmer needs the same intelligence, and needs to give the same thought to his calling. I have known men who could not read or write, but who could plan, and in that way made a success of their business. We should also impress, especially on our young men, the dignity of their calling. I am glad to find that Dr. Mills is doing this up at the college, and there is no better place to do it. There is no reason why a young man should hang his head in the presence of anybody because he is a farmer. My calling is just as good as that of the tradesman or manufacturer, and more important to the country. Why should we not hold up our heads with other people ? Learn to respect yourself. That is the first step in making other people respect you.

Remember, too, the power and influence of integrity of character. I should like to see our farmers have greater power of influence all along the line in this country. They cannot have it unless we realize that character means power and influence. The man who takes his clover seed to the market mixed with sand to make it weigh will be nobody in the community. We do not realize this sufficiently. The Farmers' Institute worker, talking in every county, and almost every township, should impress this, especially, on our young men. Let us regard the rights of others, and realize that integrity means much of influence and power in the community among whom we live.

Extend the Helping Hand to One Another. Do not forget that there are men on the farm who are struggling with all their might, and yet are not getting the results they would like. They have not made a success of things. They started out with a good deal of pluck and courage. Reach out the hand and help them—it is one of your privileges. Do not forget to tell the farmers that they are linked together, and one should help the other. It is the silliest of silly things for a farmer to think that if he knows anything he ought not to give it to his neighbor. If there is anything I know which you want to know, you are welcome to it. I am quite willing to let the other fellow get ahead of me if he can. If a man can produce a better animal than I can, I will shake him by the hand ; he is helping to improve the product out of which I am going to make money. If all our farmers were producing the right type of hogs, we should have no difficulty with these drovers. The average of our cattle is not good, and, therefore, we have to buy it on the average. When I am helping my neighbor I am helping myself ; there is no doubt about it.

One of the advantages of this Winter Fair is the help it affords. We are searching for truth here, and in some of these lines we are still groping for it. When you have found it, do not let it go ; take it home with you, and when you go out on your work again teach the same lessons to the people. We are getting at the truth about the bacon hog, and, if the Institute workers will all give it to the people, it will make a distinct impression on the country. Another advantage is that you meet together and talk over your work, and help one another in that way. The people who are managing the agricultural exhibitions in this country are going in the wrong direction. These shows are becoming of such a character that the best of our people feel that they are not warranted in taking their children there. The sporting characters of the country are getting hold of our exhibitions and undertaking to run them. They do not see any harm in a gambling device. When my boy goes along with a dollar in his pocket it is not ten minutes before some fakir takes it out of him. That's what they are there for, and he pays the directors ten dollars for that privilege That is all wrong.

Institute Lecturers Show Great Public Spirit. I sympathize with you most heartily in the what you are doing. I know how hard it is. I was never so tired in my life as after a week at Institute work. It is only public-spirited men who can take hold of it and keep at it. I know that your time would be of more value to you at home than what you get for it at this work. I am proud of men who, like my old friend, John McMillan, will go over this country year after year in order to accomplish something to help the people. We do not value them enough. I say, God bless such men. It is quiet, simple work, and, although it may not make a flashy impression, the day will come when we shall look back and see that we owe more to them than to any others. I cannot, perhaps, give you more pay, although I know you ought to have more. The time will come when you will have your reward—if not in a material way, then in a better way—in the esteem and respect of all those whose esteem and respect is worth having. Your children and grandchildren, looking back, will be proud of their country, and proud of the work that their fathers and grandfathers did for it.

A FEW NOTES SUGGESTED BY A HURRIED TRIP THROUGH ENGLAND, IRELAND AND SCOTLAND IN JULY AND AUGUST, 1900.

By President Mills, O. A. C., Guelph.

General Appearance of the Country. For the most part, the country districts of Great Britain and Ireland have an orderly, finished look, due, no doubt, in large measure to the lack of stumps, stones and wooden fences. The fields, generally small in Ireland, and rather large in England and Scotland, are separated from one another and from the highways, usually by green hedges, but not infrequently by neatly-built dikes, or stone fences. A Canadian who has taken note of this feature of the old country landscape cannot but feel ashamed of the unsightly, crooked, tumble-down fences to be seen in so many parts of this Province, and it is to be hoped that the coming generation of farmers in this country will make an effort to improve the appearance and increase the value of their farms by straightening and improving their fences and removing all stones from cultivated fields, especially the piles which have been ploughed around, harrowed around, mowed around, and reaped around for thirty or forty years. Let the owners haul them away in winter, or some other slack time, and put them together in a neat pile in the woods or some other out-of-the-way place.

Cultivation of the Soil. As a rule, the land in these old countries is well tilled, and there are not nearly so many weeds as in most parts of this country. There are, of course, evidences of neglect to be observed here and there, but not luxuriant crops of wild mustard and others pests, such as are to be seen near our college and elsewhere in well-

known sections of Ontario. No doubt, the rapid spread of weeds in this and other provinces of the Dominion is due, not only to poor cultivation and carelessness in the selection of seed, but to the fact that so many devote their attention almost wholly to grain-growing, with but little stock-raising, and only occasional seeding wih clover. It is now generally admitted that stock-feeding and frequent seeding with red clover are essential, not only to keep land in good heart and enable it to withstand drought, but to keep it clean, as well.

Pasture. One thing, above all others, which strikes a visitor from this country, is the rich green color and luxuriant growth of the grass in the British Isles—pastures and meadows such as one rarely sees in this comparatively dry climate. In the south of Scotland especially I saw much of the finest permanent pasture, consisting of mixtures of the best varieties of grass and clovers, living and growing from year to year. In the north of Scotland, however, in Aberdeenshire, for instance, where Duthie, Marr, and other noted breeders of Shorthorn cattle live, they have to depend on temporary pastures such as may be seen on some of the best Canadian farms, excepting the fact that the frequent rains of the north, as well as of the south, cause a much more abundant and continuous growth than we have in this country.

In pastures for sheep, cattle and horses we never can compete with the British Isles, but in the matter of fodder corn we have a great advantage over English, Irish and Scotch breeders and feeders. More cattle per acre can be raised and fed by growing Indian corn than by any other crop known to stockmen, and we have the summer heat and other conditions necessary to produce large crops of this very useful plant, but, so far, they have not grown it successfully in Great Britain or Ireland.

Special Lines. Great Britain and Ireland, especially England and Scotland, are beginning to devote more attention to special lines than to grain growing, that is, to branches or departments of agriculture in which they can successfully compete with foreign importations. This is especially true of dairying, which they carry on with the most satisfactory results on account of their splendid pastures, rich and luxuriant during the greater part of the year. Poultry-raising may also be mentioned as one of the specialties which has received a considerable amount of attention during the last few years.

Special Foods. Stockmen in Great Britain generally use more special, concentrated foods, such as linseed cake and cotton seed meal, than we use in this country. They also feed large quantities of imported Indian corn, but they are debarred from the use of corn ensilage, their climate being unfavorable to the production of that excellent food. It is, of course, to be borne in mind that, having open winters and such a luxuriant growth of grass and clover, they are not so much in need of succulent food like ensilage as we are, with our long, snowbound winters, and a superabundance of straw, chaff and hay to dispose of.

Agricultural Schools and Colleges. In Great Britain and Ireland there are a number of schools and colleges for instruction in agriculture, some covering the whole field, but most of them confining their attention to special branches or departments of work. The best-equipped agricultural colleges which I saw during my visit were at Glasneven, in the western suburb of Dublin ; Cirencester, in Gloucestershire, England, and Grignon near Versailles, France. There is more or less land for practical instruction and experimental work in connection with each of these institutions, and the course of study are much the same as in United States and Canadian agricultural colleges, but the charges for board and tuition are high, and the practical instruction (outside of the laboratory) is very meagre.

There is a small agricultural college, with a farm attached, and a fair representation of stock, at Downton, near Salisbury, in the south of England, and a similar one, without farm or live stock, at Aspatria, near Carlisle, in the north of England. The latter school depends on neighboring farmers for experimental work and permission to inspect their herds and flocks from week to week throughout the session. Both these are private schools.

There is a good, practical school of horticulture at Swanley, Kent, and schools or colleges of agriculture in Reading, Leeds, Newcastle, and two or three other places. In these, the sciences relating to agriculture are taught, and courses of lectures are given on soils, soil cultivation, live stock, dairying, etc. There are no farms in connection with these schools. Instead of providing farms of their own, they have arranged with farmers near by to conduct some experiments and allow students to inspect their farms and stock at stated intervals, say once a week, or once in two weeks ; and the Reading College has the additional advantage of having access to the very extensive, beautifully-kept and most instructive test or experimental grounds of the well-known seedsmen, Sutton & Sons, at Reading.

Several dairy schools have been opened within the past few years. There is a good one at Kilmarnock, in Scotland, another good one in connection with the College of Agri-

culture at Reading, and several under the control and direction of County Councils, such as the school at Holmes Chapel, in Cheshire, and the Midland Dairy Institute, at Kingston Fields, Nottinghamshire.

In this connection we should not overlook the Lady Warwick Hostel at Reading. This is a school founded and looked after by Lady Warwick, to give girls a thorough course of instruction and training in domestic science and art, horticulture and poultry-raising. The school is doing good work, and will, no doubt, be a great benefit to those who may avail themselves of the advantages which it offers. I saw several groups of intelligent, fine-looking girls, some sewing, some cutting out dresses, some hoeing tomatoes, and others feeding hens.

There is a lectureship in agriculture in Oxford University ; a Department of Agriculture, with a farm, has recently been established in connection with Cambridge University ; there is a chair of agriculture in Edinburgh University, and a similar one, with some land for experimental work, in connection with Aberdeen University.

The West of Scotland Agricultural College has recently been established in Glasgow. It is giving a good course of instruction at the college, and is conducting experiments at several points in the south of Scotland.

Outside of the schools and colleges, a considerable amount of experimental work is done, scientific investigations carried on, and results published from year to year by the two well-known agricultural societies of Great Britain, the Royal Agricultural Society of England and the Royal Highland and Agricultural Society of Scotland.

CORN GROWING.

By T. H. Mason, Straffordville.

A celebrated American statesman has said that the growing of corn is a matter of longitude rather than latitude. This fact—for it is a fact—is beginning to be understood in the Province of Ontario.

Corn a Northern Crop. Our American neighbors have been growing corn away to the north of a large portion of Ontario for many years, in Michigan, Wisconsin, Minnesota and Dakota. The failure of the pea crop and the great expansion of the dairy industry have of late years directed the attention of farmers to the possibilities of this crop, and to-day we find corn successfully grown and matured 100 miles north of Ottawa, and in the Parry Sound District. I think it is safe to say that the product of the corn crop exceeds in value per acre that of any other farm crop in Ontario.

Showing improvement of corn by selection : Boone Co. White Corn on left and the type from which it was developed by selection on right. (U.S. Dept. of Agr. Year Book, 1899.)

Select Suitable Varieties. One of the most important points in corn-growing is the selection of a variety suitable to the location, and that will mature in that particular locality. A good variety is the one that will give the largest total yield of stalks and grain per acre, and that will mature safely any average year. We would put special emphasis on the yield of grain, for we must remember that the nutritive value of a lot of grain is many times that of a pound of stalks.

Some of the best varieties for Southern Ontario are :—Mastodon Dent, Improved Leaming, Cloud's Early and Wisconsin White Dent.

For Central Ontario :—Wisconsin White Dent, White Cap, Yellow Dent, and Salzer's North Dakota.

For Northern Ontario :—Blue Blade, White Flint and King Phillip.

Select Your Own Seed. Having finally decided on the variety, after the first year select your own seed. Go through the field when the corn is ripening and select the earliest ripening ears, then braid up and dry thoroughly before severe weather. You then get seed that is absolutely certain to grow, and if you repeat this custom you will secure a strain that will in a few years be several days earlier than the original seed you started with.

Any Soil But Hard Clay. Any of our ordinary soils will grow corn successfully, except very hard clays, that are deficent in humus. Moreover, it is a gross feeder, and will make use of a liberal quantity of manure.

Corn should be the clearing up crop of the rotation, but as it is very often handled it is the dirtiest crop. If land is full of weed seeds, liberally manured, and cultivation stopped when the corn is a couple of feet high, we get a great quantity of weeds and a small crop of corn.

Cultivation. Two systems of cultivation are commonly practised in the corn belt. One is to plow very late in the fall, manure in the winter and spring, then gang plow or disc in May, making a shallow seed bed. There are two advantages gained by following this plan : (a) By late plowing the cut worms are killed. Some years these insects are very destructive, especially on sod. (b) The moisture accumulated by the winter snow and rain is conserved and held for the growth of the crop during the summer—a very important matter these dry seasons.

The other system practised is to avoid plowing in the fall. Let the grass and clover get a good start and leave the plowing as late as possible, say, after the middle of May. Then put on full force and plow as quickly as possible about four and one-half inches deep and roll down ; then thoroughly work, to get a good seed bed, and plant as soon as possible. This system is very often followed on very heavy soils, and the advantages claimed are that the soil is rendered more pliable and mellow by the fermentation of the green stuff and roots turned under, and that it does not become heavy and sodden, as it sometimes does when ploughed in the fall.

Hills vs. Drills. Planting in hills has several important advantages over the drills ; (1) The crop of grain is a little larger. (2) There is better exposure to the sun, and a freer circulation of air, thus hastening maturity, and giving better quality. (3) There is a decided advantage in cutting where corn binder is not used. (4) Last and greatest, a much more thorough cultivation can be given, cleaning the land with the least expense, and doing away almost entirely with hand cultivation.

Plant at from 3 feet 6 inches to 4 feet each way, according to variety. As soon as planted, if land is in suitable shape, harrow thoroughly, and give a stroke of the harrow every two or three days until corn is up, then start the weeder, and do not be horrified if it does cover up some corn and tear out a few plants. You will never miss them at harvest time. Keep weeder going until corn is one and one-half feet high, then cultivate deeply at first, but very shallow later, as long as you can possibly get through without too much damage. Do not cultivate more than two inches deep after corn is three feet high, or you will destroy the shallow feeding roots and injure the crop. When you have nothing else to do, cultivate corn. One of our oldest and most successful corn-growers told me that he counted a boy and horse worth at least $2 per day in the corn field.

The Silo the Best. After the crop is grown, then the question of preservation comes up. There is not the slightest doubt now that the silo is the best place to put it. Ensilage is now longer an experiment. Where they are once introduced they gain ground annually, and the man who is opposed to ensilage is invariably the man who never used it, and therefore knows all about it.

DISCUSSION.

Q. Which is the best method of planting corn, in hills or in drills ?

A. We prefer planting in hills for several reasons. First, we get a larger yield of grain to the acre. Second, the corn is several days earlier, getting more sun exposure. Third, we can give more thorough cultivation, cleaning the land with less expense.

Q. Do you use a weeder ?

A. We have used a weeder for two seasons, and like it. We first harrow the corn if soil is in suitable condition as soon as planted : then harrow every three or four days until the corn is up ; then put on the weeder until the corn is over a foot high. The weeder will not kill thistles or quack grass, but if used in time will thoroughly stir the whole surface of the soil and kill the weeds before they appear on the surface. But do not let the weeds get a start, or you cannot do good work with the weeder.

Q. What variety of corn do you prefer ?

A. I have found the White Cap Yellow Dent to give great satisfaction in this neighborhood, both for ensilage and for grain. I am satisfied that I had at least 125 bushels to the acre.

Q. Is it advisable to save your own seed ?

A. Decidedly yes. By going through the field just as it is ripening and selecting the earliest and best formed ears, and then thoroughly drying the seed before severe weather comes, we secure perfect seed, that starts strongly as soon as planted, and that we can be depended on as sure to grow. Most of the seed we get from local dealers comes from the elevators of Chicago or Toledo, and is slightly heated. As a consequence the germinating power is weak, and often serious loss results from such seed. Another thing—seed selected in this way becomes acclimated, and in a few years will be several days earlier than the original seed with which we started. I think we should adopt some plan to raise our own seed. We have suffered a great deal here by the use of improper seed. I think if a few of our best farmers would form an association to raise and properly care for seed corn and offer it for sale, that it would benefit themselves and the whole community.

Q. Mr. McPhedran : I find from my three years' experience with a silo, that I cannot rafford to be without it. The old way of curing corn in large shocks makes expensive handling, and then after February 1st the value of the feed is reduced one-half by repeated thawing and freezing, and especially by the ravages of rats and mice, the corn has lost its succulence, and it cannot be restored no matter how much water we may add to it.

Q. What varieties of corn are best for silage purposes ?

A. In this locality I fancy that the "Mastodon Dent" and the "Wisconsin Earliest White Dent," or the "Improved Leaming," should give good results. You are near the lake here, and have a comparatively long season, and should ripen any of these varieties.

Mr. McDonald : I find that on our light lands here the "White Flint" grows well, and gives us a large crop of grain. We feed steers for the export trade, and find that ensilage should have a large amount of well-ripened corn in it to give best results. Then, in addition, there should be fed a liberal amount of bran, pea meal and other grain, say eight or ten pounds a day. Our feeders are too sparing of the grain, and put their cattle on the market unfinished. We have frequently sold our cattle for three pounds per head more than equally good cattle that were not finished.

SILOS.

Discussion by some of the Leading Farmers of Ontario.

Q. Would a round silo 10 feet in diameter and 25 feet high be large enough for 15 head of cattle ?

A. A round silo 10 x 25 feet would hold about 40 tons of silage, which would give 15 head of cattle about 28 pounds per day for six months. A silo 12 x 25 feet holds 56 tons, which would provide 40 pounds per day for six months, or 30 pounds per day and a few pounds left over for feeding when the grass has failed.

Q. What would be the probable cost of a concrete silo the size mentioned ?

A. A concrete silo of 56 tons capacity would cost probably $100.

Q. Do the users of silos think it would pay to borrow money to put up one ?

A. The extra number of cattle a man can keep, and the better condition in which he can keep them, by using silage, instead of either dried corn or roots and hay, will easily justify a man in borrowing money to build a silo.

Q. Would it be any advantage to have the bottom, say, six feet underground ?

A. Not unless it would be in a bank, so that the bottom would be a little below level with the stable door.

Q. Does the use of ensilage give milk or cream a bad flavor ?

A. Decidedly not. After several years' experience in feeding ensilage I can say that where well-matured ensilage is fed in proper proportion with other foods, that there is not the slightest danger of taint

Mr. Cassleman : I do not feed ensilage. Am sending cream to Montreal, and by the terms of my contract am prohibited from using ensilage, as the Montreal dealers claim that it does flavor the milk. We use clover hay, some corn fodder, roots and for grain food use gluten meal from the starch factory. At Cardinal we get gluten meal at from $16 to $18 per ton, and it gives us greater value than any grain food we can buy.

Q. Which will give the greatest value per acre, roots or corn ?

A. Taking the province as a whole, it is generally admitted that corn gives the greatest value for food, per acre. Especially is this true of the southern portion of the province, where roots are not nearly as good in quality as they are farther north. In some localities, especially where they have early frosts, roots may give the best results.

One in the audience : I find on my land that turnips give better crops than corn. I cannot ripen corn.

Dr. Harkness : You do not plant early enough. The people in this locality think they can plant corn in the middle of June. I find after several years' experience that one succeeds perfectly here when planted on drained land, not later than May 15th. I prefer planting early for corn. If you get an early frost the corn will come on again, and gives a much earlier crop than if planted late. The Southern Mammoth Sweet gives me good results in ensilage, and I was sorry to hear the delegates run down my old friend, the Southern Mammoth Sweet.

Q. Is there any difference in the nutritive value of the different varieties of corn ?

A. Generally speaking, there is in our locality a strong feeling in favor of the Flint varieties, as being the most nutritious, pound for pound. But the variety that gives the greatest yield per acre, other things being equal, will prove most valuable. We have found the "Compton's" Early to give good satisfaction.

Q. What variety of corn does best with you ?

A. "Improved Leaming" has done the best with me.

Q. At what stage of growth should corn be cut for the silo ?

A. Just as it is glazing. I supply milk to Hamilton, and if the corn gets too dry there is not the same amount of milk in it. I would have been thousands of dollars better off if I had adopted the silo years before I did, but I was prejudiced against it. I heard so much against it, but now I know better.

Q. Is ensilage satisfactory food for supplementary pasture in summer ? Will it keep ?

A. Yes, decidedly. In fact, it is a necessity to all who are engaged in dairying in southern Ontario, but to give best results it should be fed with wheat bran, pea meal, or some food rich innitrogenous matters, to balance the ration.

Mr. Hunter : Ensilage is necessary at all times of the year for dairying, but the summer silo should be high, with small diameter. Last year I sowed some cow peas for soiling, and I found them very satisfactory, and I shall plant more next year.

Q. How much corn do you sow to the acre ?

A. Prof. G. E. Day, Guelph : Very little over a peck.

Q. What variety of corn do you prefer for the silo ?

A. The largest variety that will reach the glazing stage before being cut. This will vary with locality. On the college farm, principally Wisconsin Earliest White Dent and Mammoth Cuban are grown. The latter is somewhat later than the former, and is also a heavier yielder.

Q. Which is the best plan, to erect a silo of cement or wood ?

A. Cement makes a good silo, and, if properly constructed, will last an indefinite length of time. So far as keeping the silage is concerned, wood will answer about as well as cement, and is preferred by some. The great advantage of the cement silo is its durability.

Q. What size of silo would be required to feed four cows for eight months ?

A. It is doubtful whether a satisfactory silo could be made for such a small herd. It is estimated that there should not be more than about five square feet of feeding surface for each cow, and, for the best results, a silo should not be less than twenty feet high. It would be practically impossible to meet these conditions for four cows.

Q. Do you put water on your corn when you put it in the silo, and how do you cover it ?

A. No. If the corn has become very dry or ripe before putting into the silo, watering would be an advantage. If we require the silage for immediate use, we do not cover it at all. Otherwise, we usually cover with chaff and wet the chaff thoroughly. A few oats sown in the wet chaff will be a help.

Q. What is the cheapest and best silo ?

A. This is difficult to answer. The round stave silo is undoubtedly the cheapest, and is apparently giving good satisfaction. The concrete silo is the most durable.

Q. Will not a crop of mangolds be as profitable as a crop of corn ?

A. Jas. McEwing, Drayton : No.

Q. How long will ensilage remain good ?

A. For years, if the silo is air-tight.

Q. Do you believe it pays to build a silo ?

W. C. Shearer, Bright : Yes, preserving corn in silo has been proven satisfactory and the best method. It does not improve its feeding qualities, but it preserves them without any deterioration whatever.

Q. How often would you feed cows daily that are fresh in milk ?

A. We feed hay at 6 a.m., ensilage and grain at 9 a.m., half bushel mangels at 12 a.m., ensilage and grain at 4 p.m., and fill their mangers with straw at 7 p.m. On this feed they keep at a June flow of milk.

Q. How often would you water cows daily in winter ?

A. It is better to have water trough or basin in their stalls, and let them drink at will. I have noticed that they always drink some after each feed.

Q. Have you any remedy for the cut worm ?

A. We have adopted a three-year rotation, namely, oats, clover and corn, and the land does not lie sufficiently long in sod to make the cut worm a pest.

Q. Do you plow your corn stubble and root ground in the fall, after the crops are off ?

A. G. C. Caston, Craighurst : Most decidedly not. Neither corn stubble, root nor potato ground. I simply work it with the disc in the spring to make a seed bed. This land is clean ; the cultivation of the corn and roots leaves it clean, and the available plant food is near the surface, just where it is wanted. By this system, you have a firm soil underneath, so the little rootlets of the grain can get a grip on it, and the surface tilth makes a mulch that prevents the escape of moisture, and retains it where the roots of the plants can get it. My experience is that you get a better crop, of better quality, by this system than by any other, and you are sure of a catch of clover.

Q. Do you have any trouble with the corn stubble ?

A. No, but I would if I plowed them up. Just run over them with a land roller in spring, and there is no more trouble with them.

Q. Do you believe in rolling the land ?

A. Well, all the use I have for a roller is to make a smooth, even bottom for harvesting and mowing afterwards. If you seed down, I believe the land should be gone over with a light smoothing harrow after rolling. It would leave the land in a better mechanical condition to control the moisture. In fact, I believe, in view of the severe drouths we have to contend with often here—forests are being so rapidly cleared away ; our streams and wells are drying up ; evaporation of soil moisture goes on far more rapidly than in early times; we may make up our minds that we will always have drouths more or less to contend with in this province—I say, in view of all this, I believe the time has come when we should study as one of the very important problems in our agriculture, how best to counteract the effect of drouths, and I believe we shall soon be cultivating our grain crops much as we do our corn and roots. Irrigation is out of the question, and the next best thing is the prevention of evaporation by frequent and shallow stirring of the surface soil.

Q. What is the cheapest and best silo ?

A. Andrew Elliott, Galt : The cheapest silo is the tub. When permanence is considered a cement one is preferable. One of eight sides is the best shape, being stronger in proportion to the thickness of the walls, and it also has no sharp angles.

Q. How often do you cultivate corn ?

A. F. A. Sheppard, Queenston : As often as it needs it. That is, always after every shower, to break the rust, so as to check evaporation, and frequently during dry weather to bring up moisture from below.

Q. Do you consider corn (grain) in the silo as good as husked grain ?

A. Yes. It costs less to put the grain in the silo than to husk it. Being made succulent in the silo, the grain is more digestible than the hard, ripened grain. The expense of chopping it is also saved.

Q. How do you plant your corn ?

A. W. C. Shearer, Bright : In hills, and for three reasons : (1) I obtain more ears. (2) Cleans the land better. (3) The corn stands straighter in heavy storms.

Q. Will hilling corn make it ripen more quickly ?

A. R. Thomson, St. Catharines : It may cause the corn plants to turn yellow and ripen prematurely, but there will not be as much feeding value in the stocks, neither will there will be the weight of ears.

Q. What is the better way to feed corn ?

A. If you can mature it, put it in silo, or cut and stock when dry and stand sheaves on end in the barn. Stalks are then in good condition to be cut up.

Q. How would you cure seed corn ?

A. Let the corn ripen as well as possible, then strip the husks back. Tie the ears together and hang up to the roof near the stovepipe, or in an open shed until thoroughly dry.

Q. Would you sow a large late variety to get a large quantity of fodder ?

A. No ; I would plant a smaller, earlier variety, as there would be more and better food value in the smaller number of tons.

Q. Do you prefer using planters to covering corn with the hoe ?

A. I prefer the hoe if ground is damp and cool, and the planter if very dry.

Q. What do you cover the ensilage with ?

A. Chaff, sprinkled with water.

Q. What would you use to prevent crows pulling corn ?

A. I put, say, half a bushel of corn in an old sugar pot or tub. Sprinkle with a little hot water, then drop about a tablespoonful of coal or gas tar over the corn and stir for five minutes, until every grain has a slight coating of the tar.

Q. What kind of corn do you sow ?

A. Mr. John Hamilton, North Brant : Leaming and common Indian corn for this locality.

Q. How do you plant ?

A. Mostly in hills, but some is sown in rows three to three and one-half feet apart.

Q. What is the value of the silo ?

A. There are many advantages, as succulent food, and economy in feeding.

Q. Would it not be an advantage to plant Indian corn with larger varieties ?

A. Mr. Vansickle : No, not if with a larger growing variety you can get plenty of matured ears.

Q. Do you turn cows on rape ?

A. Mr. Pake : No, it taints the milk.

Q. How far apart do you sow rape ?

A. Same as turnips.

Q. When do you sow ?

A. Middle of June.

Q. What precautions do you take in turning on rape ?

A. Turn cattle in with full stomachs.

Q. When ?

A. Middle of September.

Q. Do you ever sow rape among corn ?

A. No : I sow fall wheat on corn ground.

Q. Is there any after growth to rape ?

A. Yes, from the early sown, but not the late sown.

Mr. Moyle : My experience with rape was that I had a lot of good feed. Have plowed some under as green manure, with good results. Have grown in drills and sown broadcast. I think it is quite a hard crop on the land.

Q. What variety of corn would do best for the section of North Lancaster ?

A. D. M. McPherson : After a long experience, I have found Cloud's Early Yellow gives the best result in both grain and stalk. We formerly raised the Mammoth Cuban, and it gave us great yields, but it was inclined to grow hard and woody. For exceptionally rich soil we have found a variety of sweet corn known as Mammoth Sugar to excel all other kinds.

Q. What is the best corn for the District of Rockland ?

A. W. C. Edwards : We have experimented for years, and find that we can grow varieties of corn that we thought could not be grown in this district. Our best varieties this year were "Wisconsin Earliest White Dent" and "Salzer's North Dakota." After growing corn for twenty-five years in drills, we this last year grew it in hills, and had the heaviest and most reliable crop we ever grew. It is possible to grow corn successfully to much higher latitudes than most people are aware of. I have matured corn perfectly at points one hundred miles north of Ottawa.

Q. In a country like this, where we bring corn to perfection, is there any use of a silo ?

A. Mr. McLeod : I have had a silo for years, and I will say this, that a man with fifty acres can achieve greater net results with the aid of a silo than a man with one hundred acres can without it. In fact, I would sell fifty acres and do with half the land rather than do without a silo.

Q. How do you keep the crows off the corn ?

A. D. C. Anderson, Rugby : In the spring, when you kill pigs, place some offal on the snow about forty or fifty yards from the buildings. The crows will light upon it. Shoot six or eight of them. Throw them into an out-of-the-way corner where the corn is just peeping through. Put a leg here, a head there, and stick a wing in the ground. This is the most effectual way of keeping the crows off.

Q. Would not ensilage be better than soiling in summer ?

A. Dan Drummond, Myrtle : I think not. First, because there is a loss in feeding value of corn being made into silage of from 15 to 25 per cent. This is saved by feeding direct from the field. Second, the variety of the crops is welcomed by the animals, and peas, oats, barley and the clover are more nearly a perfect feed than corn, even before it has lost much of its feeding value.

Q. Is there not less labor in connection with the ensilage ?

A. There is, perhaps,some advantage on the labor side of the question, but not nearly so much as appears at a glance. You must have a regular system, and the team going to the field for green feed can take the manure and spread it at once on the ground.

Q. Would you always feed in the stable ?

A. Yes, as that is the only place you can feed all alike. In the field they will waste it by running over it, and in racks, there is always some master cow to scare the timid ones away, and the timid ones are usually the best milkers.

Q. Would you not as soon carry on a partial soiling ?

A. Partial soiling is better than none at all, but all it can do is to help out a poor pasture. You do not derive the full benefit of the soiling system in saving of land, saving of fences, saving of manure. You do not derive the full benefit of the comfort of the cattle, nor the larger production of butter.

THE BENEFITS OF SOILING COWS IN SUMMER.

By W. C. Shearer, Bright.

In case of a drouth during the dry, hot months of summer, it is an evidence of prudence on the part of any dairyman to provide suitable soiling crops to come in rotation for the purpose of keeping up a supply of succulent food, so necessary to the health of productiveness of the cow.

For this purpose a herd of fourteen cows will require about four acres, in the following order : Top dress an acre of new clover with five or six loads of good manure. This comes in for an early drouth. Next apply at the rate of fifteen loads of manure per acre to the balance of the four acres. Prepare half an acre and sow as early as possible, with two of oats to one bushel of peas per acre. Sow thickly, because it costs as much time and labor to produce a light as a heavy crop. Sow another half acre in ten days, and ten days later another half acre. This will supply succulent food through the latter part of June and all of July. About May 15th sow half an acre of some early Flint corn. Sow in rows 30 or 36 inches apart, at the rate of half a bushel per acre. On and after May 24th sow the last two acres with a good Dent corn. Cultivate thoroughly and continuously, whenever opportunity occurs, through the season. Begin feeding corn in the manger, having previously run it through the cutting box. About August 10th this corn should be far enough advanced to continue feeding in right through to the end of the season, with the addition of a ration of bran or ground oats. Do not omit to keep the cattle well supplied with plenty of salt. The cattle can be turned out at night and the greater part of the day also. A large pile of most excellent manure can be saved and applied to the land, devoted to the next season's soiling crops.

Proof of the Pudding. As an instance of the profits accruing from such a system, two patrons of a cheese factory, when their milk was supplied from April 1st to November 1st, will be cited :—

They each possessed 100 acres of land. One kept nine cows, and allowed them to look after themselves as best they could on pasture alone, with the result that he received 2,021 pounds of milk from each, or $18 for the season.

The other kept fourteen good cows of grade, Shorthorn, Ayrshire and Holstein breeds. These gave 6,005 pounds of milk each in seven months, or $49 each in cash. The cows were carefully fed on an abundance of succulent food all through the dry weather of summer.

The difference in money value of the two systems stood thus : No. 1 received $162, while No. 2 received $686, a difference of $524, for the skill, care and attention bestowed on the herd of No. 2.

SOILING CROPS AND THE SOILING SYSTEM.

What Practical Men Have to Say on this Important Question.

The following questions were submitted to members of our Institute staff, with the result t hat a number replied as follows :—

(1) To what extent have you used the soiling system ?

(2) Have you found it of advantage ?

(3) What crops are best adapted to this system ?

(4) What is your practice in regard to preparing the land and sowing crops for soiling purposes ?

(5) Have you had any experience with the summer silo ?

(6) To what extent should the average farmer adopt the soiling system ?

Thomas Mason, Staffordville, Ont.

(1) We have for the last twenty years followed a system of partial soiling, using the pastures and then at night feeding green crops in their season, with other foods, such as bran, pea meal, cotton seed meal, ground oats, using which ever would be cheapest.

(2) Decidedly, yes ; impossible to get along without it these dry years.

(3) A mixture of peas and oats for early summer feeding ; then very early varieties of flint corn, followed later by Stovell's evergreen or some other canning variety.

(4) We usually sow peas and oats on land that has been well manured the previous year, and has been in corn. Our fodder corn crops are in the same field with our regular corn crops, and receive the same cultivation.

(5) Have not a summer silo yet, but have been feeding ensilage from October 1st to the latter part of May. Will put in one for summer use this year. Am satisfied that the silage is the cheapest and most satisfactory way of supplementing summer pastures. I have been holding back because I was in doubt as to the effect of ensilage on our grass cheese and butter. I am satisfied now that it is safe to use it in summer.

(6) It's a question of land and labor. With high-priced land in the neighborhood of cities, and in the Niagara fruit belt, I think it would be well to soil exclusively, but with cheaper land partial soiling would be more profitable. Labor is too expensive for ordinary Ontario conditions to soil exclusively.

R. S. Stevenson, Ancaster, Ont.

In reply to your inquiry about my experience in soiling, I may say I have followed a partial system of soiling and pasturage for a number of years in the feeding of my cows. As a matter of fact we never rely on having more than a month or six weeks of pasture, that is, good enough to keep cows up to a paying flow of milk, and we plan to sow some crop for soiling just as regularly as we sow our other spring crops.

I have found that a mixture of peas and oats sown very early on a piece of well-prepared ground is the best for the earliest crop for soiling. This crop will be ready about July 1st. This should be followed by a second sowing about two weeks later. In the place of this, a plot of lucerne will answer, but it will get beyond the best stage for feeding in a short time. It is a splendid thing while it lasts.

As soon as the ground is warm enough for corn, we plant a good acreage of the Stowell's evergreen. This variety is far ahead of any other I have ever tried for soiling. The cattle eat it up clean, no matter how large the stalks are.

We always manure our land for a soiling crop, and get it in first-class shape and sow three bushels per acre of peas and oats, and for corn we plant in drills about twelve quarts per acre.

I have not had any experience with the summer silo, but I intend to build one at an early date.

It is useless for farmers in this part of Ontario to rely on pasture alone for their cattle, as the drouths seem to come with unerring certainty every summer, and in any case a soiling crop, if not required, can always be saved for winter fodder, so I think from every point of view it pays to sow soiling crops.

Robert Twiss, Woodburn, Ont.

(1)I have used it for several years in the dry season.

(2) I have certainly found it a great advantage, and could not do without it.

(3) Two bushels of oats, one bushel peas and four pounds millet seed per acre.

(4) In the fall I plow sod, and in early spring I sow, and at intervals of two weeks, so that it will not be all one age. I feed it to my cows in the stable. What they cannot eat I cure and store for winter. I find it better feed than hay, and I get from two to three tons per acre.

(5) I have not.

(6) I consider every farmer who keeps a cow should provide for her some kind of green food during the months of July, August and part of September.

A. C. Hallman, New Dundee, Ont.

In reply to your questions in regard to "soiling crops," I shall most cheerfully give you my experience along that line. The subject is a timely one, every farmer and stockman, and especially the dairyman, will, during certain periods of the summer, have to face the perplexing problem of supplying some substitute for pasture, or else suffer severe loss during the hot, dry spells in summer that this country is so much subjected to of late years.

(1) I have practised the soiling system more or less the last twelve years, but only to such an extent that I deemed it necessary to bridge me over a dry spell in connection with pasture, with the exception of one year. That year I had no prospect of pasture, my meadows and fresh seeding were all burnt up, and I had no other resort but to dispose

of the stock or provide them with soiling crop. I chose the latter. I carried the stock from spring until after harvest on green food hauled to the stable.

(2) I never kept cattle as cheaply before, nor since. One acre of ground in soiling crop is equal to three in pasture with proper rotation.

I consider it of great advantage. It means more work, but well paid, I would never have abandoned it, but had a lot of new ground which was best suited for pasture.

(3) Alfalfa (or lucerne) comes first, and will form part of the ration all summer if cut at right intervals. There is nothing better, red clover and winter rye, for early cutting, oats and peas or vetches, two parts of oats to one of peas, white hulless barley, oats and peas, sown at intervals of a week apart, sown twice as thick as for ordinary seeding, fodder corn, none better than Stowell's Evergreen Sweet ; cultivate same as for ensilage. Rape in drills, for young cattle, dry sows, or a stock bull and hogs. White turnips in the autumn. Have used all the above crops with good results.

(4) Have no particular method of preparing land beyond what is required in good farming. The soil must be kept clean from weeds. Moist by frequent shallow cultivation, until crops are sown and after, if a hoe crop. The land should be rich in humus. If manure is applied, it should be done the previous year for the early crop. Latter part of No. 4 answered in No. 3.

(5) This is the most important and practical subject of all. You will pardon me if I enlarge considerably on this very important question. The word "silo," or "ensilage," has a significance far beyond the grasp of a man that has had no experience with it. Nobody can fully comprehend the value of it but those who have made practical use of good ensilage. I wish I could sound this in every farmer's ear, and so impress it that no farmer can attain to the highest success in cheap and successful stock-raising without an abundance of good ensilage. I believe it is just as useful for feeding export cattle as for the dairy cow, and it is especially good for the former and young stock. Now, in coming to my subject, the "summer silo," I am sorry to say my experience with the summer silo has been too limited for my own benefit. I have, for the last three years, had silage for part of the summer, and the only fault I could find with it was that it did not last all summer. I expect to have enough this year to last the most of the summer. With my experience I feel free to say that no dairyman should attempt to be without a summer silo. It is the cheapest, most convenient succulent food that a farmer can provide for a dry spell.

(6) This depends on circumstances—the size of the farm, the amount of rough, new, wet or meadow land, and the number of cattle kept, and also whether the man practices a system of catch crops in his rotation (which is a subject I shall not deal with now). It is wisdom, however, for every farmer who raises stock to provide in some way for a dry spell. An acre of oats and peas (two bushels of oats and one of peas) sowed a week or two apart, will go a long way in bridging over a gap, and if the feed is not needed at the time, if well cured, will make excellent winter food. In conclusion, I wish to impress the importance of making some provision in some way, without relying entirely on pasture. The time of the year is here to lay our plans for the arrangement of our crops, and I can with all confidence recommend any of the above systems, so rudely outlined, and especially the "summer silo."

T. G. Raynor, Rosehall, Ont.

That soiling, practised wholly or in part, is a valuable way to feed stock, goes without saying. In reply to certain questions you have asked me on this subject I would say that :—

(1) I have practised a partial system of soiling. I have grown some green foods to supplement the dry pastures to feed dairy cows, and to a less extent to working horses.

(2) I have found it a decided advantage. In fact, it would be impossible to keep up anything like a paying flow of milk without green food to help out when the pasture is short and dry.

(3) I believe in a continuous supply of green food to be supplied to stock by commencing with fall rye, follow that with lucerne, then clover, peas and oats, millet grass, corn, pumpkins and roots. Better than all these for summer feeding would be ensilage, balanced up with a little grain ration.

What I am most familiar with is a mixture of peas and oats, sown in the proportions of one part peas to two parts oats, and about three bushels of the mixture to the acre. This crop, sown at two or three different times in the spring, will last pretty well through July, and sometimes into August. I have tried oats and barley mixed, which is also good, but not so good as the peas and oats. I believe that tares and oats would be similar to peas and oats. A mixture of peas and oats approach a balanced ration, and their highest feeding value is obtained when nicely headed out and in the milk stage. This combination, if cured, makes a first-class fodder for winter feeding as well.

I have grown a good deal of corn, both sweet and ensilage, for soiling. For early fall feeding I prefer sweet corn, but the ensilage corn and all the varieties give good satisfaction. grow it in hills four feet apart each way for the most part. What I sow I sow in drills north and south, with a drill about three feet apart, and so it will grow ears. I got the best results from feeding corn when the ears have reached the milk stage and on up to maturity. Its feeding value is enhanced when it is balanced up by the use of bran and chopped oats to feed with it.

I find pumpkins good for the production of both milk and pork. I grow them with the corn. Greystone turnips also give good satisfaction when fed in limited quantities and after milking. I do not advise the growing of turnips for milk production, as the products are unfavorably influenced.

I have also grown some millet hay, but this crop has not done well with me. It makes very good feed. It is deficient in protein, like timothy hay.

Lucerne is undoubtedly a first-class soiling crop, where it can be grown successfully. As yet I have not been able to get it to live over the second winter. It is excellent feed, and will give three cuttings in good seasons.

(4) In preparing the ground for soiling crops I like to get it in a good state of cultivation and rich in available plant food. I aim to get a large growth per acre. I like the ground to be fall plowed and well worked up, if possible, by earlier cultivation. Manure is applied and worked in the surface soil and a liberal supply of it. Then with a good, fine seed-bed and proper cultivation I am pretty sure of a good crop.

A very good way to grow peas and oats is to plow under the peas four or five days before the oats are sown with a gang plow, and lightly. They seem to come on better together that way.

(5) I have had no experience with the summer silo, I am sorry to say. I believe that ensilage fed in the summer which is balanced by adding such meals as bran and chopped oats is the most economical and satisfactory method of soiling.

(6) I think the average farmer should adopt a partial system of soiling, using such of the crops as I have mentioned above that he can do best with for supplementing dry pasturages and those crops which will not impart bad flavors to milk and its products. I believe that more should be done in this way by our farmers where intensive farming is aimed at, and I am very glad you are taking up this subject and urging it upon our farmers. I believe that the milk flow in the late summer and fall months could almost be doubled on many farms, if soiling were generally practised. I am also satisfied that pork could be produced much more cheaply in summer if the growing pigs were allowed to pasture on such crops as lucerne, peas, or rape up to about 125 pounds weight. The question of time to do this kind of work when labor is scarce is one reason why it is not more generally practised. I am satisfied it pays to take the time, and I intend to increase the practice rather than diminish it.

By J. B. Ketchen, Superintendent, Dentonia Park Farm, Coleman.

On a farm like this, where we have a fair acreage of broken land, partial soiling is the most advantageous ; but where the land is arable a complete system of soiling is the most profitable.

The great advantage is that one is enabled to keep a larger number of animals on a given acreage than by any other method. It is generally conceded that if a farm of one hundred acres will maintain twenty cattle, it is about as many as it will maintain. Under a complete system of soiling a farmer would be able to maintain one hundred head on one hundred acres. In countries where the system is carried out in its entirety fourteen animals on eleven acres is an average.

Last spring we had sixty milch cows ; we turned these out on the 17th of May into a six-acre field, and on the 29th of May the pasture was all gone. We had not had these cows on the six acres all the time, for they were in the barn at night and fed meal twice per day. Then on the 29th of May we turned them into an adjoining field of eight acres, and on the 16th of June this pasture was so poor that they were kept in the stables and feed was hauled to them.

The first feed consisted of grass which had grown rather luxuriously near the ponds, but this amounted to very little. The next was from one and one-half acres of red clover, and then we started cutting our oats and a mixture of peas and oats. In all we had seven acres, and this amount of land fed these cows until the 8th of August. Summing this all up, we find that under the pasturing system sixty animals were maintained on fourteen acres thirty days, while under he soiling system the same number were maintained on eight and one-half acres fifty-three days. If this is not margin enough to offset the extra amount of labor I will give you as nearly as possible the value of the manure we had while the cattle were in the stables. Of course the manure of twelve horses was mixed with it, but when the shed was emptied on the 28th of August we drew out one hundred and forty loads of well-rotted manure. I feel safe in saying that if we had not stabled the

cattle we would not have had twenty loads. The extra labor in excess of the pasturing system amounts to the time of one man and team three hours.

With these results I am confident that soiling is one of the chief factors of maintaining the fertility of the farm, and now on one hundred and fory-five acres we are maintaining seventy-eight head of cattle.

DISCUSSION.

Q. What are the best soiling crops ?

A. (Prof. G. E. Day, O.A.C., Guelph.) Among the best are Alfalfa, red clover, oats and peas, oats and vetches, and corn.

Q. How much Lucerne seed would you sow to the acre ?

A. (R. Harcourt, O.A.C.) Fifteen to twenty pounds.

Q. Would you sow it with or without a cover crop ?

A. Preferably alone ; but if with a cover crop, such as oats, sow only about one-half the usual quantity of oats.

Q. When red clover and Lucerne are mixed, when would you cut ?

A. They should not be sown together as the Lucerne is too ripe long before the red clover is ready.

Q. When should Lucerne be cut ?

A. When about one-third of the blossoms are formed. This brings it much earlier than clover.

Q. When pastured how should it be treated ?

A. Pasture it off and then take the cattle off of it and allow it to grow up again. Then pasture it off in sections ; if it is not all eaten off cut with he mower. A better growth will be kept up in this way.

Q. When should the seed be sown ?

A. In the spring, as early as the land can be gotten into shape.

Q. Will it -do on dirty ground ?

A. No. A crop that is to occupy the ground for so long a time should have a clean seed-bed.

Q. Will it do on low ground ?

A. It will not grow upon wet soil, nor upon land where the water stands near the surface.

Q. Will it grow upon dry soil ?

A. Yes, if it once gets started.

Q. Are Lucerne and Mammoth clover the same ?

A. No. One is perennial, the other annual.

CATCH CROPS.

By A. C. Hallman, New Dundee, Ont.

Among the different topics discussed at the Farmers' Institute meetings, perhaps none has received so little attention as this subject, and yet it is one of great importance. Many farmers have not even thought of it ; some have given it considerable study and attention, and have learned to know the value of it.

Not More Land, but Better Farming. The farmer has many hard problems to solve at the present time, and especially the young farmer or beginner. On many farms the soil is depleted of its vegetable deposit or humus through the old system of farming. Our produce from the exhausted soil has to compete with the products of the new countries with their virgin soil, and with the west, where the land is cheap and fertile. We are all clamoring after more acres, when the object in many cases should be better and more "Intensive farming." Very few of us are so fortunately situated that we can add more acres, but nearly all of us can increase the producing capacity of our land by improved and advanced methods of farming, thereby enriching the soil so that a third or a half more, and in some cases double the amount of crops, from the same farm. This is worth a great deal more than additional land.

Among the many things that can help us are "catch crops." There is no definite time for sowing them. Any time when there is a piece of bare ground, or with other crops in the summer season. Nor is there any particular kind of crop. Any crop that is suited to the particular time of sowing, or for a special purpose. Where the land is in good heart, clean and plenty of vegetable deposit (humus) clover, mixed with grass, ranks very high. If the season is favorable it will give an abundance of fall pasture, and in many cases with the roots and tops, will put as much back into the ground as the grain crop takes out of the land. In nearly all cases the fertilizing value of the stalks is worth much more than the seed cost.

Rape sown with oats or barley about two weeks later than the grain is sown, at the rate of three pounds to the acre, and brushed in with a weeder, gives grand pasture in the fall for hogs and young cattle. Rape can also be sown with the last cultivating of corn, and when the crop is removed the young plants grow right along, and give lots of green feed in the fall.

Wheat stubble, gang-plowed shallow and sown early with oats mixed with a few peas, barley or rye, also gives an abundance of fall pasture for cows. Rape can also be sown, and gives nice fall picking. I have sown oat stubble with rape and some grain and had good results.

Timothy should always be sown with fall wheat, even if it be plowed down right after harvest. The seed amounts to only a trifle. It never winter-kills, and where the wheat is winter-killed or heaved out the Timothy is there, keeping down the weeds, and at the same time making good feed.

Rye is an excellent crop to sow in the fall for late picking or early pasture in the spring. This can be sown on ground that is intended for root or hoed crops. It makes a splendid cover crop, and where not wanted for pasture will add a lot of humus to the soil when plowed down. Some seasons white turnips will well pay for the labor, when sown after a crop is taken off. When sown in drills you can clear the land by frequent cultivation.

Catch crops not only help to enrich the soil, but also help to clean it. With shallow cultivation all foul weeds germinate ; these are picked off through pasturing, and you are rid of them.

SEEDS AND SEEDING.

By C. A. Zavitz, B.A., O. A. C., Guelph.

Time to Sow.

Q. Which do you consider the best dates to sow spring grain ?

A. Results of experiments for six years goes to show that the earliest possible date which the land can be worked to advantage is the proper time to sow spring wheat. Spring wheat can be followed by barley, oats and peas in the order here named. Peas give the best results when sown about ten days later than the earliest date that the land is warm and dry enough to work to advantage.

Q. Is it better to sow grain broadcast or with a grain drill ?

A. It depends upon the season and the condition of the land. As a rule, the drilled grain gives a little larger yield of crop per acre, but in very early seeding and in wet weather the grain which is sown broadcast sometimes gives better results than that which is sown with a drill.

Corn.

Q. What variety of corn do you recommend ?

A. I have great faith in North Star Yellow Dent, Compton's Early and Salzer's North Dakota are both great producers ; but in our co-operative experiments last year North Star Yellow Dent led these in grain by ten bushels to the acre.

Q. Is it better to plant corn in hills or in drills ?

A. The results of co-operative experiments conducted on many farms throughout Ontario show the best results from planting in hills, as compared with planting in drills, when the same amount of seed was used in both cases.

Q. How many grains do you plant in a hill ?

A. Usually four, if the seed is of good quality, and, of course, nothing but good seed should be planted.

Roots.

Q. What is the best variety of mangels to plant ?

A. It is quite true that the Globe mangel is slightly richer than the intermediate, and that the intermediate is richer than the Long Red, still, when yield and quality are added together, it will be found that the Long Red gives the greatest amount of food to the acre. We have tested seventeen different strains of Long Red, and have found Evans' Improved Mammoth Saw Log gives the largest yield of any.

Q. How do sugar beets and mangels compare in yield per acre and in feeding quality ?

A. In several years' experiments we find that the highest yielding variety of mangels (Evans' Improved Mammoth Sawlog) has given an average of about twenty-five tons of roots per acre, and the highest yielding variety of sugar beets (Danish Improved) about nineteen tons of roots per acre. In a feeding experiment conducted at the college by Prof. Day in each of two winters by feeding mangels and sugar beets to milch cows, it was found that the results from feeding the two kinds of roots were practically the same

when an equal amount of roots were used in both cases. Chemical analysis, however, shows the sugar beets to be somewhat richer in feeding constituents than mangels.

Q. Is it not better to grow mangels than to grow turnips ?

A. This depends largely upon the soil and the uses to be made of the crop. About eight or ten years ago we had an almost equal demand for mangel seed and turnip see for co-operative experiments, but during the last few years the demand for mangel seed has been about three times as great as that for turnip seed. As a rule we obtain a much larger yield of mangels per acre than we can obtain of turnips under similar conditions. In each of the past few years the turnip crop has been injured considerably by ravages of the turnip fly, the turnip louse and the cabbage worm, while evidently none of these have been nearly as injurious to the mangel crop.

Q. Which will give the greater yield per acre, mangels or turnips ?

A. I think I am safe in saying that in nearly all of our results we have obtained only about two-thirds as large a yield of turnips per acre as we have of mangels.

Q. What distance apart would you thin mangels ?

A. I would thin the large red mangels to about ten inches apart in the rows.

Q. Do you not think that distance rather close ? I know some farmers who thin their mangels to sixteen and twenty inches.

A. I have based my reply upon information gleaned from very careful experiments conducted for five and six years in succession in thinning mangels four, eight, twelve, sixteen and twenty inches apart in the rows, the rows being about twenty-seven inches apart in every case. The results show that the mangels thinned to four inches apart in the rows have the largest yield per acre, and as the distance between the mangels in the rows increased, the average weight of the individual roots became greater, but the yield per acre became less. From analysis made in the Chemical Department, it was also found that the smaller roots were richer in food constituents than the larger ones. When the mangels are thinned to only about four inches apart, however, the roots are rather small for handling to good advantage. Taking all things into consideration, the distance of ten inches apart gives excellent satisfaction.

Q. Is it a good plan to ridge the land for mangels or turnips ?

A. It may be necessary to slightly ridge the land if the soil is heavy, and it may be somewhat easier to cultivate the roots when small if the seed has been sown on ridges. As the result of experiments conducted for several years, we have obtained about two-thirds of a ton per acre less from ridged, as compared with level culture. I would certainly not advise high ridges under any circumstances, and, as a rule, I believe better results can be obtained from flat as compared with ridged culture.

Q. At what times in the spring would you advise sowing mangels ?

A. I would advise sowing mangels as soon as possible after the grain crops are sown.

Barley.

Q. Which is the best variety of barley for farmers to grow ?

A. The Mandscheuri barley is the variety which has given the best general satisfaction throughout Ontario.

Q. How do you find the beardless variety to do ?

A. We have grown several varieties of beardless barley, but I suppose the special one which you have reference to is the Success. We have grown this for some six or seven years. It is early to ripen, stands up fairly well, has medium length of straw, but is light in both yield and weight per measured bushel, as compared with the Mandscheuri.

Q. How do you find the White Hulless barley, regarding which we have been hearing so much of late ?

A. In the six years which we have had the White Hulless barley, it has not made a high record. The straw is rather weak and somewhat short. The grain, of course, weighs about sixty pounds per measured bushel, but the yield in measured bushels per acre has been only about one-half of that of the Mandscheuri.

Q. Is the Mandscheuri barley and the Mensury barley the same ?

A. It is possible that these two varieties were originally the same, but through selection, cultivation, etc., there is now a marked difference between the two, the Mandsceuri yielding much heavier than the Mensury.

Q. Have you grown the two-rowed barley ?

A. Yes, we have grown some forty-five or fifty varieties of two-rowed barley, but find that none of them give as heavy yields as the best six-rowed kinds. The Chevalier variety is one of the best of the six-rowed barleys.

Q. What is your experience in growing winter barley ?

A. Some seasons winter barley has done well, but it is a very tender crop, and from past experience I cannot recommend it for Ontario. It is considerably more tender than winter wheat.

Mixed Grains.

Q. Will a mixture of grain give a larger yield than the varieties grown separately ?

A. Among eleven different mixtures grown for grain purposes for six years in succession it was found that barley and oats gave the largest yield of grain per acre. These two grains when grown together gave larger yields than when grown separately.

Q. What amount of seed of each would you sow per acre ?

A. In order to glean some information along this line we conducted an experiment in 1900 by sowing nine different proportions of barley and oats. The mixture which gave the largest yield of grain per acre was one and one-half bushels of barley and one bushel of oats, making a total of two and one-half bushels of seed per acre. This amount of seed per acre might be a little heavy if the land was sown with grass seed at the same time.

Q. Which varieties are the best to use for mixtures ?

A. It is necessary to use a late variety of barley such as the Chevalier, with an oat that requires a medium length of time to reach maturity, such as Siberian or Banner, or else it requires a very early oat, such as Daubeney, to mix with a barley that is comparatively early, such as the Mandscheuri or the common six-rowed.

Wheat.

Q. What do you consider our best variety of spring wheat ?

A. Taking both yield and price per bushel into consideration, goose is the most profitable spring wheat we can grow. In five years' experimental work goose has given us an average yield of 38 bushels to the acre, as compared with 30 for the best of other spring wheats.

Q. Is there any pure wild goose spring wheat grown in Ontario ?

A. I have been looking up Wild Goose spring wheat seed a good deal this spring, and I know of but once place where the Wild Goose spring wheat is grown perfectly pure, and that is at the Experimental Department of the Ontario Agricultural College, although this variety is grown quite extensively in many places for export trade. It is a great pity that it is so badly mixed with the softer varieties of spring wheat, as it is a great detriment to this variety for export purposes. I would certainly advise those who are growing the Wild Goose spring wheat to make a careful selection, in order to get supplied with pure seed as soon as possible, as there is a good demand for pure Wild Goose wheat.

Q. Have you grown the Turkey Red Variety of winter wheat ? If so, with what results ?

A. We have made two importations of the Turkey Red wheat, and have grown this variety at the college for seven years in succession. It is a very hard wheat, and one highly recommended by the millers. We have found it to be a rather light yielder of both straw and grain. The crop is very apt to become badly lodged, as the Turkey Red has weaker straw than most other varieties

Q. The millers imported a considerable amount of the Turkey Red wheat for seed purposes in the autumn of 1900, did they not ?

A. Yes, several thousand bushels of the Turkey Red wheat were imported from Kansas last autumn, and much additional information should be obtained regarding this variety during the present year. Several farmers in Waterloo County have grown the Turkey Red wheat for the past two years, and the results, on the whole, were very similar to those obtained in the tests at the college. It seems difficult to get pure Kansas seed. There was a considerable amount of rye mixed with the wheat imported in Western Ontario in 1898, and also in 1900. This is unfortunate, as winter rye is very hardy, and is apt to increase rather than decrease, unless great care is taken to pull the rye out of the growing crop.

Spelt.

Q. Have you grown spelt, and, if so, with what results ?

A. We have grown six varieties of spelt within the last fourteen years, but have not obtained as good results from spelt as we have from the leading varieties of barley, oats or spring wheat.

Q. What is spelt, anyway ?

A. Spelt is usually considered one of the seven classes in which wheat is divided. The grain proper resembles that of wheat, but the chaff does not separate from the grain when threshed, and in order to use the grain for flour purposes it is necessary to have special machinery to separate the outer chaff from the grain. It can be grown as food for stock. The grain weighs about forty pounds per measured bushel as it comes from the machine.

Peas.

Q. What are we going to do about the pea weavil ?

A. I believe it would be a wise thing if farmers, in those sections of the province where the weevil has played havoc with the pea crop, would unanimously decide to give

up the growing of ordinary peas for two or three years. By this means we might hope to get rid of the weevil. Meantime very little would be lost, as we have an excellent substitute for ordinary peas in the Grass pea. The Grass gives a fair length of straw for fodder, and it is a fair yielder in grain. Taking an average of seven years, it has given us 23 bushels to the acre at the college farm. It will not do as well on light soil as the Prussian Blue, but the soil that will produce a good crop of Golden Vine peas will also raise the Grass pea. There need he no difficulty whatever about getting seed. A number of farmers about Hamilton, and in the Niagara district, have grown nothing but Grass peas for some years, and all the seed needed can be secured in those sections.

Potatoes.

Q. What are the best varieties of potatoes ?

A. The Empire State, American Wonder and Pearl of Savoy are judged by the standard of our experiments, the best varieties in Ontario.

Oats.

Q. What variety of oats has proven best at Guelph ?

A. In oats the Siberian has not only at Guelph, but taking the Province as a whole, given the best average results during a series of years.

Q. Have you conducted any experiments with crops to plow under ?

A. Yes. We have carried on experiments in this matter for four years, and we have found that while plowing under a crop of buckwheat will increase the yield of fall wheat sown on top, that a greater increase is obtained by plowing under a crop of peas. The wheat on ground where peas has been plowed under gave a greater yield, by six bushels to the acre, than did the buckwheat land. The peas are plowed down when the grain is about half or two-thirds grown. The crop is plowed under just as shallow as possible. One year we sowed buckwheat, crimson clover and peas altogether, and had an immense lot of stuff to plow down. In plowing we put the revolving coulter first, then the skimmer, and then the plow. There was no difficulty in getting it under in this way. The plowing is done about three or four weeks before the fall wheat is planted.

Conclusion.

The importance of what Mr. Zavitz says in the foregoing interview will be more readily understood when a few facts, taken from the report of the Bureau of Industries are added to his remarks. An addition of two tons per acre to the ensilage corn raised in Ontario in 1899 would have added 345,000 tons to the total crop of the Province ; an addition of two bushels per acre to the pea crop would have added 1,500,000 bushels to the total ; an addition of two bushels per acre to the barley crop would have increased our total yield by 1,000,000 bushels ; an addition of two bushels to the spring wheat yield would have meant 800,000 bushels more in the granary ; and two bushels more to the acre in oats would have meant an increase in the total yield of nearly four and three-quarter million bushels. No one will deny that these additions might easily have been made had a little more care been shown in selecting seed, and more promptness in time of seeding, together with even a slight improvement in cultivation.

DISCUSSION.

Q. What has clover growing to do with enriching the soil ?

A. (Prof. G. E. Day, O.A.C.) The clover plant has certain forms of bacteria associated with its roots. In their process of growth these bacteria take up considerable quantities of nitrogen from the air, and the nitrogen thus collected eventually becomes available to the clover plant. Large quantities of this nitrogen are stored in the fleshy clover roots, and when these decay their nitrogen is available for subsequent crops grown on the soil. Only what are known as leguminous crops, such as clover, peas, beans, etc., possess the power to collect atmospheric nitrogen, and clover possesses this power in the highest degree of any of the crops mentioned. The large tap roots of the clover also tend to improve the texture of the soil, and make it more favorable for other crops.

Q. How would you go about it to get a good catch of clover ?

A. In order to grow clover successfully, a well-drained soil is necessary. The soil must also contain a fair amount of vegetable matter, in order to bring the young clover through the dry weather of summer. Since clover increases the vegetable matter in the soil, it follows that land that is frequently sown with clover is more likely to give a good "catch" than that on which clover is sown comparatively seldom. Where clover is sown every third or fourth year, and where all the crops of the farm are fed, and the manure carefully saved and applied to the soil, failures of clover are comparatively rare.

Q. How will you get a catch of clover on light and hilly land in a very dry season ?

A. The only way is to get the soil well filled with vegetable matter. Liberal applications of farmyard manure worked into the surface soil, together with the plowing under

of green crops, may bring about the desired end. Such soils should be seeded with clover at least every third year, after a "catch" is once obtained.

Q. What are the usual causes of clover failures ?

A. Wm. Hutt, Southend : (1) Defective soils, the usual result of selling too much hay, fodder, grain and other crops off the farm, without that fertility being restored to the land in some form or other.

(2) The lack of humus and the consequent water-holding capacity of the soil. This is the result of lack of mannring or the plowing under of green crops.

(3) Sometimes early frosts—usually unavoidable.

(4) Drought (generally supposed), but really a lack of humus.

(5) Too late seeding—after the ground has become dried, so that the seed cannot germinate.

Q. What kind of crops take the greatest amount of fertility out of the soil ?

A. Probably root crops, especially mangels.

Q. Are oats a good crop to seed with ?

A. T. G. Raynor, Rosehall : No, not so good as other crops, but sown sparingly, does pretty well.

Q. How do you succeed so well ?

A. I seed with fall wheat largely, sow early on honeycombed soil, and do not sow timothy seed too thick.

Q. Preparation of seed-bed for fall wheat ?

A. Prepare pea stubble or corn stubble.

Q. May you not sow grass seed without a nurse crop ?

A. Yes. It is a pretty sure way of getting a catch.

Q. Do you ever seed down with fall wheat in spring ?

A. Yes. Sow seed during late spring frosts, while ground is honeycombed.

Q. How do you sow peas and oats ?

A. Make the land rich. Sow in the proportion of two-third oats to one-third peas, two bushels of the mixture. It makes fine hay.

Q. How do you manage the pea and oat crop in a moist season ?

A. Have to watch the weather, of course.

Q. What time do you cut peas and oats for hay ?

A. When the oats are fully shot and the peas are past the table stage.

Q. What is the best crop to seed down with ?

A. Fall wheat, and it is the practice of the majority.

Q. How much seed do you sow to the acre ?

A. Eight to twelve pounds. Most farmers near Churchville only sow six pounds.

Q. What do you think of working the land over twice in spring ?

A. I believe in securing a fine seed bed. If a sandy soil, one cultivation may do, but give it two or more if necessary to get a suitable seed bed.

Q. What effect has lime on grain crops ?

A. It whips up lazy plant food, and, in proper quantities, has a good mechanical effect on clay soils. It sweetens humus or black muck soils, and strengthens the growth of crops.

Q. Would you prefer to turn sod for corn or roots ? If so, when and how deep would your plow ?

A. Yes, I believe that is one of the best preparations. Plow early after hay has been removed. Work thoroughly with cultivators and harrows. Apply manure and ridge in fall. Next spring, work on the level again. Plow four or five inches in depth.

Q. How would you treat smut in barley ?

A. Make a solution of copper sulphate in a barrel. Put barley in a sack and dip it into the solution. Dry by spreading on a floor, and with lime.

ONTARIO FARM CONDITIONS, FROM A YANKEE FARMER'S STANDPOINT.

By J. S. Woodward, Lockport, New York.

We Yankees are apt to think of Canada as a cold, inhospitable country, with nine months winter and the rest early in spring and late in fall. No greater mistake can be imagined. I was employed over there in Institute work for three months last winter, and have travelled quite extensively and mingled freely with the people. I have been much over our own country and seen the farmers and how farming is done in many of the States, and can truthfully say that the farmers' houses in Canada will average better than in any part of the United States. They are quite largely of brick and have a look of stability and comfort about them that is very commendable to the good sense and thrift of the farming community. There is also a very much larger proportion of barns with good basement stables than can be found in any like area of the United States.

The schoolhouses, as a rule, are good, substantial brick buildings, far better as a class than they will average in any of our communities. The teachers are employed permanently, and not, as with us, by the single term, and, of course, have the incentive to keep up with the times. The farmer is a bright, wide-awake, hard-working fellow, and has sense enough to know it won't pay to put bogus things into the market. He growls a good deal at Uncle Sam for shutting him out of our market for barley, but it was the greatest blessing that could have come to him, as he new feeds his barley, peas and oats to his cows and other stock, and having a Government with sense and honesty enough not to allow the making of skim cheese or oleomargarine, he is getting more money out of the product in cheese and butter, and is not rubbing his hands. In no country in which I have ever been is the Government doing so much for the farmer as in Canada. Hon. Sydney Fisher and Hon. John Dryden, the Dominion and Provincial Ministers of Agriculture, are always out among the farmers at breeders' meetings, at Institutes and all gatherings of farmers generally, alert to their wants, and seeing how they can benefit them.

The Ministers of Agriculture and the Live Stock Associations Work for the Breeders' Interests. Each branch or breed of live stock has its association, and these are all combined in a general live stock breeders' association with which the Ministers are always working in harmony. So powerful has this become that they have been able to secure a rate on pure-bred animals used for breeding purposes of less than half rate on common stock. The Government assists in putting all dairy products in the Old Country markets in the best form ; they will not under any circumstances permit the making of skim cheese or bogus butter or oleomargarine, even to be sold as such, and in case any shipment of butter or cheese is not up to the desired mark, an instructor is at once sent to the factory in which it was made, and he stays until the trouble is discovered and remedied. It also employs several dairy inspectors whose duties are constantly to go from factory to factory to see that all are kept up to the highest excellence.

The Bacon Industry. Just now much attention is given to producing bacon suitable for export trade. The Government provided suitable photographs and charts showing the kind of bacon demanded by the market, the kind of pigs to produce it, and insisted on the farmer being instructed in the best way to feed and handle the pig to make the most desirable bacon at the maximum profit. A fat stock, dairy and poultry show was held last December at London, Ont., under the direction of the Government, and at which it insisted every Institute worker should be present to see the animals judged, killed and cut up, and to listen to experts who lectured on each point. The Government is also very liberal in its support of the college and experiment stations, and it has now in hand what is called an experimental union, in which 3,000 or 4,000 separate experiments are conducted by as many persons all over the Province of Ontario, the results of which are collected by the college for the benefit of the farmers.

Institute Work. In Institute work no country is doing more, or as much, with the same money. In each "Riding," equivalent to our Assembly districts, at least four must be held each year. Many hold up to eight and ten, and the farmers make it a point to drop all business and go to the Institute, and woe be to the poor fellow who attempts to lecture on a subject on which he is not thoroughly well posted. Altogether our Canadian cousin is a wide-awake, progressive, hospitable, up-to-date farmer, and the more we mingle among them and learn that honesty pays in dairy matters the better it will be for us.

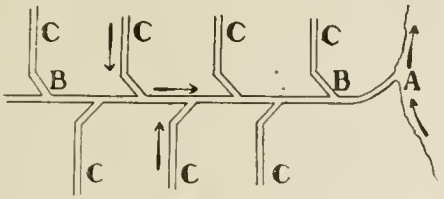
MANAGEMENT OF SOILS.

By A. W. Peart, Burlington, Ont.

Four distinct operations appear to be involved in the management of soils, viz., drainage, cultivation, manuring and rotation :

Drainage. Drainage may be subdivided into surface and under-draining. The necessity of running furrows across the lands or ridges, in the hollows or lower parts of the field when finishing it, in order to get rid of the standing water quickly is recognized by every good farmer. We use tile under-drains to draw away the surplus water in the low, wet spots of our fields, and have found them to be a most profitable investment. Where lands are rolling or porous and have a good natural drainage, and are giving reasonably good crops, we do not think that under the present condition of farming it would pay to tile them. Where, however, they are flat, wet or springy, and give but very poor crops, drainage is good economy, and the increased crops will pay for it in four or five years. Before beginning to drain, two things must be settled : C an you get an outlet for your main drain at a reasonable cost ? And can you get enough fall in your main drain to warrant you in going to the expense ? An inch to every 20 feet is a good fall, but

I would drain on less, using a larger tile for the lesser fall. Thoroughness is absolutely necessary. The bottom of the drain must have a uniform fall, otherwise the tile will eventually fiill up with mud or silt. The main should be laid about three feet deep, and the branches a few inches shallower, so as to permit a rapid descent the last twenty feet or so, and prevent filling up at the point of junction. As to the distance apart of branch drains, that depends upon the nature of the subsoil. In heavy clays fifteen or twenty feet apart will answer, while in light or porous subsoils thirty or forty feet will give good dralnage. The more porous the subsoil the farther the drain will draw from either side. Branches should join the main, and the main empty into the creek, or whatever it may be, thus :—



A—Creek. B—Main drain. C—Branches.

This prevents colllsion and clogging. For the same reason branches must not empty into the main opposite each other. Drainage makes the soil more porous, improves its texture, sets free plant food, and converts practically barren wastes into rich, productive lands. Soils otherwise wet, when drained, may he worked much sooner in the spring, which means increased production of crops.

Cultivation. Cultivation is psrobably the most important feature connected with the handling of soils. Nature has placed large quantities of plant food in our soils, and it depends upon our skill and knowledge how far we can make use of and work this mine for the benefit of our crops. Cultivation is vital, and the subject is so wide that one scarcely knows where to begin. For spring grains I try to plow in the fall. When the furrows are well and evenly set up and are frozen, and when the frost comes out, fertilization takes place and the soil is left in a fine, granulous condition. Plant food is liberated and a warm seed bed is formed. When plowing for spring grain is left until the spring, our teams are plowing when they should be surface cultivating, and drilling in the seed. Every day's delay in getting in grain after the soil is dry enough to work means fewer bushels at threshing time. Soil plowed in the spring, too, is colder on the surface than that plowed in the fall, which involves slower germination and vegetation. As to the proper depth to plow, it seems to me that is a question which each farmer must decide for himself, according to his own soil, conditions and crop requirements. If the soil of a given field is deep, say ten or twelve inches, and that field were plowed in the fall for spring grain. would try to plow it about seven inches deep. But if by some mischance that field were not plowed until the spring I would plow it lighter, as the deeper the plowing the colder the surface turned up. If that field were plowed in the fall for mangels I would try for about eight inches. But if the surface soil of this field is only 6 or 7 inches deep, I would try to plow it only 5 or 6 inches deep. In other words, the depth of the soil, the time of plowing and the nature of the crop grown are all factors in determining how deep to plow. I do not wish to bring any subsoil to the surface if I can avoid it. Sometimes, however, the surface soil is so shallow, that some of the subsoil must necessarily be brought to the surface in plowing. If I have a deep soil I want to give the roots of the plants liberal feeding grounds, because they will, if allowed, strike down deeply. As to the question of frequency of plowing, it appears to me that that also depends upon soils and circumstances. Heavy, compact soils require more plowing than lighter ones. Such soils tend to get hard, and bake and become inert, and hence require the plow to open them and improve their mechanical condition. The plow, too, is the surest and quickest way to destroy many sorts of weeds. Where the land is clean and the soil will permit it, surface cultivation with a disc or spring tooth often forms a better seed-bed than the use of the plow.

The best way to retain moisture is an important one to our farmers. I take it that the answer lies along the line of beginning to work our fields in the spring while there is still moisture in them, but they are still dry enough to go on. It does not pay to work any land when it is wet, more especially the clays. It takes the life and heart out of them, sometimes for years. But we can very largely control the moisture in our fields for hoed crops, our orchards and fruit plantations, by plowing or cultivating—as the case may be—in the spring while there is still moisture, and then surface working them persistently every ten days or two weeks. A surface mulch is thus formed which checks capillary evaporation. In the nature of things we have very little control over moisture

in fields of spring wheat, barley, oats or peas after they are once sown and finished, but we can give these crops a good start by getting on the land at the right time. Placing humus of some form in the soil is also an important factor in retaining moisture.

Manuring. Manures may be broadly divided into three classes—stable, green manures and special fertilizers. Stable manure is rich in nitrogen, phosphoric acid and potash, the three chief plant foods, and is, therefore, an all-round manure, suitable for general farming. The best time to handle it and to apply it is, I think, a question for every farmer to settle for himself, according to the physical features and soil conformation of each field and the purposes he has in view. There seems to be no doubt that the sooner we can get manure into the soil the greater the saving and conomy. But when the soil is frozen three or four months in the year, just at the time that most of the manure is made, it is clearly impossible to get it into the soil. When a field is level, or nearly so, and there can be little or no waste from it with the thaw of the snow or winter rains, and it is to be used for a hoed crop of some sort, or is an orchard or light dry soil, I think it would be good economy to spread manure over it in the winter,say not more than ten loads per acre. But if the field is rolling or the land damp, and is required for spring grain of some sort, a large part of the value of the manure would doubtless be lost. Top dressing land in winter, unless the land be dry and light, delays seeding with spring grains very materially. The frost does not come out as soon, and the soil is consequently cold and damp longer. This would be a benefit for hoed crops, orchards, etc., but an injury for spring grains, as the delay would mean relatively fewer bushels of crop yield. On the other hand, if the manure be carelessly piled up in the barnyard, as is too often the case, and, should there come on heavy rain, a large quantity of valuable plant food is often leached away to the nearest creek. When fermentation takes place ammonia also passes into the air and is lost. I consider it a good plan to mix the cow and horse manure together (as the former is cold and the latter hot), and make the heap high and compact. There is then little loss from leaching. The use of enough straw or litter to absorb the liquid manure is also indispensable, as the latter is more valuable, weight for weight, than the solid. It is also said that a liberal use of gypsum or of kainit will check the escape of ammonia. However, it seems to me that each must determine for himself the best way to manage manure on his farm. Well rotted manure, surface-worked into the lighter soils, and coarser manures plowed under in clay soils, seems to me the rational way of applying it, so far, at least, as the nature of soils is concerned. Heavy soils require opening influences, while lighter ones ofter require compacting.

Green Manuring. Of the green manures clover and peas are probably the best. These may be plowed under very profitably to supplement the supply of stable manure, which, on most farms, is short. As is well known, they belong to that class of plants which have the property, through the peculiar construction of their roots, of gathering nitrogen from the air, converting and storing it throughout their entire system, so that even if the crop of clover or peas be removed, the roots left in the soil render it richer so far as nitrogen for plant growth is concerned. If, then, a whole crop be plowed under in a poor field about flowering time, the field is given a new life for several years to come. Rye, buckwheat, etc., may also be plowed in, and will improve a field, but not to the extent of clover or peas. Any green crop or vegetable matter turned under is an advantage to a field mechanically, by placing humus or vegetable fibre therein, and consequently increasing its power to retain moisture.

Special fertilizers have a distinct place and valne in special farming. Fruit-growers recognize the value of wood ashes. Potash is their most important factor, and fruit trees and vines feed heavily on potash. They should be used on the lighter and dryer soils, which are naturally deficient in this food. Clays, on the other hand, contain quantities of it. Salt is useful on the lighter and dryer soils for mangels, turnips, wheat adn barley. It tends to attract the moisture, and also unlocks mineral food for the use of the plant. Gypsum or land plaster is especially useful in promoting the growth and vigor of clover and grasses, and should be sown early in the spring.

Muriate of potash is used for some classes of plants that are heavy potash feeders. We use it more particularly for grapes and pears, at the rate of 150 to 200 pounds per acre. Nitrate of soda is applied when stronger growth is required in plants or trees. Two hundred pounds per acre is a good dressing for fruit plantations, sown on the surface and worked in just after vegetation has started. In applying manures we should study to supply that particular plant food that is required both by the plant and soil, and thus avoid waste.

Rotation of Crops. Rotation of crops is based upon the idea of food equilibrium. Each species of plants has its foods in a given ratio, and different from the ratio of another species. For instance, weight for weight, barley appropriates about double the potash that wheat consumes, and about the same quantity of phosphoric acid and nitro-

gen. It is clear, then, that if we were to grow barley continuously on the same soil year after year, the valuable potash would rapidly exhaust to the great detriment of succeeding crops. In other words, there would be a shortage of available potash, and minimum food factor in the field governs the crop yield, not the maximum. In the older parts of the province it is sometimes difficult to have the rotation that we would like. There are often failures in getting a good catch of clover, and, sometimes, the fall wheat has to be plowed up. Barley, too, when it was a good figure, had a distinctly useful place in a rotation, but with the reduced price there was naturally a narrower acreage. While it may be difficult for a farmer to follow out in practice any rigid system of rotation, still we should have a fixed ideal in view and try for that ideal. Certain soils are adapted only for certain crops, and we may have two or three distinct systems of rotation on the same farm. For example, I like to try to use a rotation like this on a heavy soil, viz., wheat, clover, grass, peas, wheat; and in a lighter soil, barley, clover, grass, oats, root crops or corn, barley. In the latter rotation stable manure more particularly steps in. In short, I think that the underlying principle we should try to observe is to rotate the nitrogen—gathering and consuming crops as far as practicable, and thus, with the aid of our stable manure, and the use of special fertilizers when required, maintain the productiveness of our farms.

DISCUSSION.

Q. Will humus do more for the soil than furnish food?

A. Yes. It increases the power of the soil to retain moisture, and also improves the mechanical condition or texture of heavy soil.

Q. Is salt any use as a fertilizer?

A. Salt acts as a solvent of mineral foods, making them more available for the use of plants, and also tends to attract and retain moisture. It appears to be better adapted to light rather than heavy soils, and, in my experience, gives grains a stiffer, brighter straw.

Q. What quantity do you use per acre?

A. About 150 pounds sown on the plow-bed and then worked in with the harrow or cultivator just before sowing the crop.

Q. What about gypsum or land plaster?

A. We sow plaster in the spring on meadows at the rate of 100 to 150 pounds per acre, and consider that it benefits the clovers, and passes both directly as a food in the shape of lime, and indirectly by dissolving mineral foods for their use. Plastered plants have a darker green, a richer color.

Q. Are wood ashes useful as a manure?

A. Yes, especially on the lighter soils, which are naturally deficient in potash. They are particularly useful for fruit trees of all kinds, pears and grapes being notoriously heavy potash feeders. In orchards and vineyards they should be spread thinly over all the surface, and not around the vine or trunk of the tree. Forty to fifty bushels per acre every other year is a fair dressing.

Q. Are special or artificial fertilizers of any use?

A. That is a wide question. My opinion is that special fertilizers have a place in special farming—that is to say, if fruit-growing, for instance, is one of your branches, and you have not enough stable manure for your orchards and the rest of your farm, then I think it pays to buy fertilizers. We use nitrate of soda for currants, raspberries and blackberries, and sometimes muriate of potash for our grapes, when wood ashes are not available; otherwise we would be robbing the rest of the farm. And by the same operation we get a lot of moisture into the soil from the air. It is not difficult nor expensive, and in dry years would pay 100 per cent. It would mean millions of dollars to the province.

Q. What rotation of crops do you advise?

A. I believe in a short rotation, including a crop of clover every three or four years. On light soils I would say clover followed by corn or roots or peas. Then surface work; sow with grain and seed again to clover.

Q. Would you only cut one crop of clover?

A. Yes.

Q. Would you pasture it in the fall?

A. That would depend on the condition of the soil. Most of our soils need humus about as badly as anything, and if you plow in the second growth of clover you add a large amount of humus to the soil.

Q. Would it not pay better to cut it for seed?

A. Yes, certainly, if your soil is in good condition, and there is a prospect of a good crop of seed. The roots when plowed in add a large amount of nitrogen to the soil. It is often called a nitrogen trap; but the soil needs humus, too, and that is why I plow in the second growth when it is in blossom.

Q. In under-draining a field that is rolling, would it do just to run the tile through the hollows, or is it necessary to drain the knolls as well?

A. (F. A. Sheppard, Queenston.) I find it always pays to run the tile through the knolls just the same as the low spots ; but if it is not possible to do it all at once, I would say to run your tile through the low land first.

Q. Would you place air holes in a long drain to make it draw ?

A. (R. Thompson, St. Catharines.) No, because air will get into the soil without air holes.

Q. Would you put your main drain in the lowest portion of field ?

A. Not if there is any rush of water over it.

Q. What would you do to prevent roots entering tile ?

A. Put a collar of tar paper around the joints, or dip the ends of tile in coal tar.

Q. Would you use wood or stone for draining ?

A. Not if I could get tile reasonably cheap.

Q. Do you advise early plowing in the fall ?

A. (G. C. Caston, Craighurst.) Yes, what we call fall fallowing. Surface work the soil just as soon as the crops are off. If the soil is not too hard rapid work can be done with the disc harrow, followed by a smoothing harrow, though many prefer the gang-plow. In any case, the cultivation should be light—that is, shallow. Usually we get some showers about that time, and weed seeds will begin to grow. Then give it a good plowing in the late fall with a single plow, and all weed seeds that have germinated will be destroyed. Then in spring surface work it just deep enough for a good seed-bed.

Q. What depth do you plow ?

A. Not more than five inches. The object is to keep the fertility near the top, as nearly all our crops are shallow rooted plants and must get their food where the roots are.

Q. Do you advise spring ploughing ?

A. Decidedly not. Plowing should be done in the fall, and work the surface in the spring with the disc and spring-tooth cultivator to make a good seed-bed.

Q. Would you follow the same practice in heavy clay and rotation of crops ?

A. My own soil is a loamy soil ; but if I had a stiff clay I would rib it up in the fall ; make the ribs high and as close together as possible. The action of the frost is the very best pulverizer, and the surface water will run off early ; then when the soil is dry work it down with a spring-tooth cultivator. I find that land plowed deepin the spring does not give as good a crop ; nor can you get a catch of clover on it, for the reason that it does not resist the drough nearly as well as land that is surface worked in the spring..

THE IMPORTANCE OF SOIL MOISTURE AND HOW TO RETAIN IT.

By F. M. Lewis, Burford, Ont.

The fact that farms of naturally poor soil, or that have become depleted by repeated cropping, give good results during a season of abundant rainfall, is proof evident to every observing farmer that abundance of moisture is very essential to abundance of crop.

Importance of Plenty of Water. Our friend the scientist states that for land to do its best its water content should be steadily maintained to within from 40 to 50 per cent. of saturation. Prof. King tells us that where this has been maintained by the application of the needed water their smallest yield was four tons of dry matter per acre, and the largest seventeen tons, and an average of over seven tons when twenty-two cases were tried. We all know that that is very much in excess of what most of us are doing. We also know that all plant food in the soil is soluble in water under certain conditions, and that all plant food (with perhaps one valuable exception, that of carbon) is taken into the plant through the moisture that is in the soil. This being the case, no matter how rich our soil may be, if it is perfectly dry the plant has no means of getting hold of the plant food.

Roots Dissolve Minerals. If you will take two pieces of polished marble and put on each some soil, moisten it every day and treat them just alike, except that in one you put some grains, and when the grain has grown some time remove the soil from each, you will find the piece without the grain will be as polished as ever, but you will be able to trace where the tiny roots have taken some of the plant food from the marble and appropriated it to itself. Nature has furnished the plant with an acid in the tiny roots, which, acting with the moisture when the root comes in contact with the soil particles, enables it to make some of the mineral substances soluble and appropriate it.

The vegetable matter is made available through the millions of bacteria that are in the soil.

Our flint corn takes 8,750 gallons per acre each day less moisture to bring it to perfection than any other crop we grow, using some 230 tons of water to grow one ton of dry matter ; Dent corn 300, and other crops varrying amounts, till we reach oats, which use from 500 to 700 tons. An apple tree, during the time it produces its fruit, will use 250 gallons per day, or on an acre, with the trees 35 feet apart, 8,750 gallons per day. On

page 208 of his treatise on "The Soil" King tells of four stalks of corn that used in thirteen days as they were coming to tassel 150.6 pounds of water, or nearly three pounds for each stalk per day. This gives us some idea of the importance which moisture has in the growth of plants.

Kinds of Soil. We have three classes of soil in the main to deal with. The very fine, close, adhesive, sticky clay ; the open, coarse, sandy soil, and the humus or decayed vegetable soils. Rain fall upon the clay soil gets into it very slowly, the spaces between the particles being so small. When the excessive moisture is drawn off by evaporation it very soon forms a crust, causing the moisture to pass out of the surface very rapidly and baking the soil so that the moisture below cannot rise to the little plant. The sandy soil and the humus are much coarser, consequently more open, and the falling water passes into them very rapidly.

Capillarity. The water upon which the plant thrives is not the water as it falls and passes through, but that which is held in suspension and rises from the lower to the higher surface by what we call capillary attraction. If you take a pebble and dip it into a glass of water, upon removing it it will be found to be covered with a thin film of water. In this manner is water held in suspension in the soil, and upon this moisture the soil subsists. The finer the soil particles the more moisture the soil is capable of holding. The finer the particles the stronger the capillary attraction, for they lie closer together and the moisture creeps from one to the other more readily. In this manner the moisture rises from the subsoil to the surface and is drawn off very rapidly by the action of sun and wind.

Nature's Pumps. Everyone has observed when a board has lain for a time that upon removing it it is always moist. A bunch of straw has the same effect. The moisture has risen to the surface, and the board or straw has shut off Nature's pumps, the sun and wind. Now, everyone knows we cannot lay boards over our farms, nor mulch our crops with straw, so we have had to look for something practical. Extensive experiments have proven that equally good results have been obtained by maintaining a soil mulch.

Soil Mulch. On page 193 King says :—"In a 12-inch cylinder filled with soil the loss by evaporation was 3-4 pound per square foot. By making vertical cross cuts with a knife it was increased to 1.38 pounds per square foot." This proves to us the importance of maintaining a thoroughly loose soil mulch. It is of the utmost importance that this be very frequently stirred, especially after a rain. We must keep the mulch to hold the rain that has fallen.

Plowing. We get a seed-bed so easily upon sandy soils that we often neglect the cultivation necessary to the thorough packing or firming of the lower soil. It is not well to plow such soils too often nor too deep. On the other hand, it may be wise to loosen the sub-soil of our heavy soils to let the water the more readily pass into and through the soil. The maintaining of a thorough soil mulch is important in either kind of soil.

Draining. Under-draining is a matter of great importance upon clay soils. Drained soils are drier in a wet season, and more moist in a dry. During a wet season the drain carries off the excess of moisture, thus making the soil much warmer, preventing it from crusting, and leaving the surface more mellow and open for the raising of the moisture by capillary attraction.

Humus Retains Moisture Well. The incorporation of humus or decaved vegetable matter with the soil is very important. The Minnesota Experiment Station report upon the effect of vegetable matter upon the water holding capacity of the soil. "A new soil, cultivated two years and containing 3.35 per cent. of vegetable matter, showed 16.48 per cent. of water. A similar soil, which had been in tillage crops until its content of vegetable matter had been reduced to 2.5 per cent., contained at the same time only 12.14 per cent. of water, a difference of 1.15 quarts per cubic foot of soil. Other cases are reported in which soils with a normal amount of vegetable matter contained fully one-quarter more moisture than those in which this material had been allowed to burn out by constant tillage. Not only do the soils containing large quantities of vegetable matter contain more water, but they give off their water by evaporation more slowly than do those soils whose humus has been burned out.

An experiment with the two soils above described, in which they have been exposed to the sun for ten hours after having been wet to the same degree, showed that the new soil, rich in vegetable matter, retained 6.12 per cent. of water, while the soil, with its vegetable matter depleted, retained but 3.94 per cent., a difference of nearly a quart per cubic foot.

This added vegetable matter makes the soil warmer and quicker than before, notwithstanding the increased amount of water held, for the color is darker, enabling it to absorb

more of the sun's heat, and the decaying of this vegetable matter produces sensible heat in the same way, although to a much less degree than the decaying of manure in hot-beds. It has been observed that freezing did not damage the soils rich in humus and of dark color, while similarly located and adjoining soils which had been depleted were visited by killing frosts."

Prof. Saunders, of the Dominion Experimental Farm, reports that he got better results from applying green manure than from that well rotted, and we all know that it will take nearly two loads of green to make one well rotted. It is also reported that very much better results were got from the application of commercial fertilizers upon land rich in humus than from that which was depleted of it.

We ought to avail ourselves of every opportunity to plow down green crops as well as all of the straw grown upon the farm.

The maintaining of a thorough surface mulch, proper drainage and incorporation of all possible humus will work wonders upon many of our farms.

DISCUSSION.

Q. What is the best crop of green stuff to plow under ?

A. (By Mr. Lewis.) Clover is the very best. Peas are splendid, and anything better than nothing.

Q. At what stage is it best to plow under clover ?

A. Crimson clover was found to contain nitrogen when from 5 to 6 inches high to the value of $21.94 per acre ; from 12 to 14 inches high to the value of $34.64 per acre ; in bloom, $37.06 per acre ; fully matured to the value of $43.96 per acre.

Q. How would you maintain an earth mulch in your spring crop ?

A. Make your seed-bed as fine as possible, and keep it loose as long as possible by harrowing or rolling after sowing when the ground has got well dried, and follow with a harrow, or better, a weeder.

Q. Do you plow after your corn ?

A. No, work it over with a cultivator or disc, and the following year your chances of getting a stand of clover are much better than if you ploughed. Don't plough any of your hoe crop ground.

Q. How will you get along without plowing your hoe crop ground when it is weedy ?

A. Cultivate for moisture, and you will not have weeds to bother.

Q. How do you get green crops to plow under ?

A. By taking advantage of every piece of ground after harvest that is not seeded to sow oats, or better, barley ; it grows ranker, and does not mind the frost so early.

Q. Would it be best to under-drain a clay farm that was rolling ?

A. Yes ; your hills are harder to drain than the level ground.

Q. Will the constant tillage to maintain the earth mulch, keep up fertility ?

A. No, you must put in vegetable matter to get continued good results.

Q. How deep should the earth mulch be maintained ?

A. Three inches has been found most satisfactory, and, the more thorough, the better results.

Q. Is not barnyard manure as good as plowing under a green crop ?

A. Yes, but the trouble is its scarcity ; we can't get enough to go around as often as we should.

SUMMER CULTIVATION AND CONSERVATION OF SOIL MOISTURE.

By F. A. Sheppard, Queenston.

The question of summer cultivation and conservation of soil moisture is probably one of the most important questions which the farmers and fruit-growers of the present day have to contend with. The question of supplying moisture to the growing plants in time of drouth is of vital importance. Each season, as the years go by, the drouths appear to become more frequent and persistent, and it therefore becomes necessary for we farmers to devise means that will to a certain extent overcome them, and by adopting a better system of cultivation get our soil into such a condition that it will be capable of absorbing and retaining a much larger amount of water than it formerly did.

How to Avoid Drouths. We find by looking over the records of the last twenty years that the annual rainfall in the Province of Ontario has been ample, yes, more than ample, to secure a full crop of either fruit or grain had it been equally distributed over the whole of the growing season. Now while we have an annual rainfall of from 35 to 40 inches, nearly one-half of it is carried off by surface drainage, and is lost so far as the growing crop is concerned, and not only is the moisture lost, but it often carries with it a large amount of soluble plant food from the surface soil. This, then, suggests the first step in the conserving or storing up of moisture. This surface flow must be stopped and caused to sink into the soil to form a reservoir from which plants can draw in time of drouth.

Sources of Soil Water. One of the very best methods of obtaining these conditions is by under-draining. Before going further, let us get a proper understanding of how water exists in the soil. It may be in one of three forms : first as free water, second as capillary water, and, third as hygroscopic water. The free water of the soil is that which flows under the influence of gravity, and is the source of supply for springs and wells. It is not directly used by plants, and in fact its presence in the soil within a foot or fifteen inches of the surface is detrimental to most cultivated crops, from the fact that it excludes the heat and air from the surface of the soil ; two elements that are absoluteiy necessary to successful plant growth. The free water is valuable, however, on account of its being the source from which capillary water is drawn.

Capillary water is the direct supply of moisture for plants. It is held between the soil particles like a film surrounding each, and has the power of motion under certain conditions of the soil. The regulating of these conditions is the key to success in conserving moisture. The power by which the water in the soil is moved from place to place is known as capillary attraction. The soil is filled with what is known as capillary tubes or pores, running from the moist soil beneath up to the surface. Through these the moisture is being continually drawn to the surface, where, if not arrested, it is quickly evaporated by sun and wind, and is therefore lost.

Evaporation. Now, what we wish to do is to find some means of preventing this loss of moisture. Anything that will cover up these capillary tubes or pores will serve the purpose. For instance, we have all noticed that if we lift up a board that has become partially embedded in the earth, no matter how dry the ground around may be, it is always moist under the board. We often say the board has drawn the moisture. The board did not draw the moisture, but simply prevented it from escaping by cutting off the intimate relationship of the capillary tubes with the atmosphere.

Mulching. Nature's way of conserving moisture in the forest was by mulching with leaves and decomposed vegetable matter, and we cannot do better than follow her example. While we cannot use a mulch of leaves on our cultivated fields, we are able to substitute for it the dry earth or soil mulch.

A soil mulch is established by thoroughly fining and pulverizing two or three inches of the surface soil, and, although it may be as dry as dust, it nevertheless protects the soil beneath it. Then by constantly stirring this top soil with the cultivaor and harrow every few days he capillary tubes or pores are kept broken or cut off just below the surface, and the moisture from below is prevented from escaping by the soil mulch, and is forced to pass through the tissues of the plants.

DISCUSSION.

Q. How do you hold moisture after spring grain is sown ?

A. (Prof. G. E. Day) : When the grain crop is not seeded with gress and clover the crop may be gone over with a light harrow or weeder after the grain is up. This breaks the crust and tends to conserve moisture. Harrowing is out of the question when grass and clover are sown with the grain. In such cases rolling may be postponed until after the grain is up, in which case the roller crushes lumps and tends to break the crust formed on the surface. We have found this plan very satisfactory.

Q. Cannot land be worked up mellow in spring so as to retain moisture just as well as fall-plowed land ?

A. Soils, especially the lighter ones, if plowed deeply in spring, are inclined to be too open below to favor the retention of moisture and the rise of moisture by capillary attraction. Generally speaking, the spring cultivation should be shallow.

Q. How would you do if you had a large area to go over in spring ? Would you work all the land before sowing to keep the soil moist, or sow as fast as you can go with the breaking up ?

A. In early spring there is usually an abundance of rain, and therefore to avoid the probability of having to do the work a second time it is well to allow the drill to follow closely upon the implements used in preparing the soil for the seed.

Q. Is it possible to do anything practical to retain the moisture on clover or fall wheat fields in the spring ?

A. Practically not. Rolling is generally beneficial, and this is about all that can be done with safety.

Q. Should land be rolled after sowing and left so, or is harrowing after rolling or rolling after harrowing best ?

A. The ideal condition would be to roll and follow the roller with a harrow.

Q. Would clay soil that is somewhat uneven need under-draining ?

A. Practically all clay soils are benefited by under-draining.

Q. After hearing what I have heard about muck, would I be foolish to haul out one hundred loads when no other work pressed ?

A. Not by any means, especially for soils that lack vegetable matter, as many of the older soils do.

Q. What crop will give the best results on sod that has been plowed in the fall ?

A. Such land should be in good condition for almost any crop suited to the soil. In the rotation at the Ontario Agricultural College fall or late summer plowed sod is followed by potatoes, corn, turnips, mangels and peas. Such land will also do well for oats.

Q. Is dry straw spread on old pasture of any benefit to the grass ?

A. In the course of time when the straw rots the grass will receive some benefit from it ; but it cannot be regarded as satisfactory fertilizer.

Q. What is the proper depth to plow clay soil ?

A. Clay soil is better to be loosened seven or eight inches deep. If this loosening cannot be done with any other implement the plow will be necessary. Plowing to this depth once in three or four years will be sufficient. Where a good supply of farmyard manure is available, and worked into the surface soil afterthe deep plowing, there is little danger of bad results.

NOXIOUS WEEDS : THEIR DISTRIBUTION AND ERADICATION.

By Simpson Rennie, Toronto.

It is simply alarming when we consider the rapid rate at which many varieties of noxious weeds are increasing on many farms in the Province of Ontario. In some sections they have entirely taken possession of the land. The same is true of sections in other countries. No sooner does the new settler pitch his tent than the weeds begin to grow. They appear to follow in his very foot-prints. He no sooner commences to till the soil than they commence to dispute possession with the various grains which he sows. Varied are the means by which the weed seeds are introduced and spread—some by the wind, others by water, farm animals, threshing machines, seed grain, clovers, grass seeds, etc., but to my mind none of the agencies are more to blame for the invasion of foul weeds than the buying and sowing of impure grass seed. Is it not a fact that many farmers knowingly buy impure grass seed ? The lower price at which it is sold is a temptation, but it is surely being penny wise and pound foolish. It usually pays to buy the best, even if it costs rather more at the time.

A Two-fold Evil. Weeds not only cause a great deal of unnecessary work and annoyance during the harvesting, threshing and cleaning of the grain, but they sap the very vitality from the plants or crops grown.

No one in this enlightened age will question the value of rotation of crops, and whatever that rotation may be, one year the land should be in clover, not only on account of its manurial influence to the soil, which is important, but the clover is a crop that matures early ; consequently few weeds have any chance to ripen their seed before the clover is cut. The next year the land should be sown with corn or field roots, and the cultivation necessary for the production of these crops will destroy all the weed seeds sufficiently near the surface for them to germinate.

To eradicate weeds it is important to know something of their nature and growth.

The Canadian thistle and perennial sow thistle can be entirely killed in a single season by a properly-worked corn or root crop. The main principle is this : The thistle, like many other plants, breathes through its leaves, and by being deprived of its leaves it is deprived of breathing power, and must die, but if allowed to grow up until in bloom all the cultivation that may be given the land that season will never entirely kill them. As soon as the thistle is allowed to grow up and develop leaves it commences to store away plant food in its underground stem and roots, so that by the time it is in full bloom it will have stored sufficient plant food to live through another season, no matter what is done with the top, or what cultivation is given to the land.

Where a summer fallow is resorted to there is no trouble in clearing the land of perennial thistles, either by shallow plowing or by using a cultivator with wide points on the teeth, so that they will overlap and go over the fallow at least every three weeks until about the first of August. By this time they will all be killed.

Bind Weed. This is a perennial, and one of the most difficult weeds to eradicate. On account of its twining nature and deep roots it can scarcely be killed in a single season, even where the land is in hoed crop. About the only way to subdue this weed in one season is to leave the land without a crop, and as soon as they appear in the spring cut them off with a wide shear cultivator. This must be repeated about every seven days until they become exhausted.

Couch Grass. This perennial weed has been very troublesome in England for many years, and is likely to become so here in Ontario unless proper methods are adopted to

keep it in check. To eradicate, plow immediately after harvest, but not more than four or five inches deep, as the rootlets usually are near the surface. When the weather is dry use the harrow and sulky horse-rake to rake them into rows where they can be burned when dry. A spring tooth cultivator is a good implement to use as soon as the roots are reduced so that it can be worked up without blocking up. This implement is very effective in drawing the roots of the Couch Grass to the surface. If this is followed the next year with a well-worked corn or root crop there will be very little trouble for some time.

Oxeye Daisy. The daisy is most troublesome in pasture and sod land, but is not much seen in well-cultivated fields; consequently when any seeding down is done it should be to clover, and again plowed up after the one crop is cut and taken off, which should be before any Daisy seeds have matured.

Wild Flax, Pigeon Weed and Chess. These are biennials, or winter annuals. They start to grow in the fall, and produce their seed the next season.

It is not difficult to eradicate these if fall wheat is left out of the rotation. Plow light or cultivate immediately after harvest, and by so doing the seed will germinate and grow. Before the winter sets in plow them down, and by repeating this for a few falls even the fall wheat can be again grown, and any of these weeds appearing in the crop could be easily pulled by hand.

Rag Weed. To eradicate this weed avoid sowing late maturing crops. Plow to land immediately after the crops are taken off and before the Rag Weed has had time to mature its seed, and in a few years this weed will be no more.

Wild Oats. An annual weed which is spreading very fast. To eradicate, work the land as soon as the crop is taken off, and as far as possible encourage the seeds to germinate. The next season put in some hoed crop. The second spring the land should be sown with some grain without plowing and seeded down to grass. If allowed to remain in sod for three or four years most of the seed will be beyond the power of germination.

Wild Tares and Wild Mustard. Although only annuals, these are very troublesome, especially so on account of their vitality. They may lie in the ground for numbers of years, and then when brought near the surface they will spring into life. To eradicate these troublesome weeds plow or disc the land immediately after harvest. After this is done work the land fine. This will encourage many of the seeds to germinate, and by introducing a hoed crop the next summer even these weeds will be greatly reduced.

Although only a few of the noxious weeds are mentioned in this paper, if the methods above outlined are carried out they will destroy at the same time scores of others of less importance.

Note.—Illustrations of all the weeds referred to in this paper will be found in the bulletin on weeds published by the Ontario Department of Agriculture.

DISCUSSION.

Q. Will shallow plowing kill Quack grass?

A. (D. C. Anderson, Rugby.) No.

Q. Does it grow from seed?

A. Yes, and also from root stocks.

Q. How would you kill it?

A. By bare fallowing if it was very bad; but if not very bad, by thorough cultivation, shallow or deep plowing, and then using sulky rake to gather it into heaps for burning

Q. Can you kill thistles by your method of early fall cultivation?

A. No. When thistles have once put forth their strength you cannot kill them that season. They must be kept from shooting up. A hoe crop, well cultivated and thoroughly hoed, will kill them in one season.

Q. Can you exterminate bind weed in a hoe crop?

A. No, it so twines around the mangels, corn and turnips that sometimes you cannot see it. The only way to kill it thoroughly is with a summer fallow, worked every eight or ten days with a broad shared cultivator.

Q. How to kill seeds in manure?

A. (T. G. Raynor, Rosehall.) Many seeds may be killed by heating manure, but losses to the manure are sustained if precautions are not taken. I would prefer to apply manure with weed seeds to hoed crops, germinate the seeds and kill cultivation.

Q. What would you do on a 150-acre farm which was full of thistles?

A. Seed with clover and cut both the first and second growth. Also kill through cultivation with hoe crops.

Q. Would you advise plowing the land in fall and top-dressing in winter for hoe crops?

A. Yes, I believe this to be a good practice.

THE CARE AND APPLICATION OF MANURE.

By John McMillan, Seaforth.

The most successful farmer to-day (all other things being equal) is the man who can raise the greatest quantity of food on the least land, and with the smallest amount of labor. Large crops cannot be obtained from the same land for any length of time, unless an amount of plant food equal to that which the crops extract from the soil is returned to it. To retain fertility all the crops raised should be consumed on the farm and the manure properly cared for and returned to the soil. The quality of the manure depends upon :

The species of the animal producing it.
The age and condition of the animal.
The food of the animal.
The accommodation given to the animal.
The amount and quality of water supplied.
The management of the manure during its accumulation.
Its after treatment before it reaches the soil.

Manure produced from working or fattening animals will contain from 80 per cent. to 95 per cent. of the manure constituents contained in the food. Manure from milking cows and young growing animals will contain from 50 to 75 per cent. of the manurial constituents contained in the food.

Farmyard manure is the staple manure that the Canadian farmer must depend on to keep up the fertility of the soil. It is only unrivalled in composition, but its value is enhanced by its action on the soil during its decay. No other manure exerts such a powerful chemical and mechanical effect, and no other can be applied to all sorts of land with such positive certainty of effect. It is also found to be peculiarly durable, and these merits are quite sufficient to account for the high estimation in which it is held by the farmer.

Wrightsons' text-book, "Science in Farming," gives the estimated value of the solid and liquid excrement from animals kept on the farm.

One ton of fresh farmyard manure is valued at $2.21 ; one ton of well-rotted manure at $2.72.

Value of one ton of the solid and liquid excrement from animal is :—

	Solid Excrement.	Liquid Excrement.
From horses	$1.36	$8.62
" cattle	86	3.14
" sheep	1.59	11.31
" swine	1.79	3.06

According to the foregoing statement, liquid manure is much more valuable than the solid excrement ; then it is of the utmost importance that our stable floors should be made to hold the liquid manure. In many stables it is entirely lost by leakage through the floors. Cement floors, either in the common stall or in the box stalls, are the best for preserving all the fertillizing elements. There is also great loss in taking the manure from the stables and spreading it in the barnyard, where both snow and rain wash out the best of the liquid manure.

If put in the barnyard, the manure should be put in a tidy pile, and the cattle and horse manure mixed together, but it should be, if possible, put in a shed, and the cattle, if they are allowed in the barnyard, by trampling over the manure will prevent it from fermenting to the extent that it would ferment if put in a loose heap. If the manure is put in a shed, it should be watched, and, if any mould appears, it should be either dampened with water or sprinkled with land plaster, which prevents the escape of the nitrogen and ammonia.

In an experiment a ton of manure fermented gave the following showing :—

	Fermented in a heap.		Fermented under a shed.		Spread in the barnyard.	
	T't'l weight.	Nitrogen.	T't'l weight.	Nitrogen.	T't'l weight.	Nitrogen.
Nov. 3	2,000 lbs.	12.9 lbs.	2,000 lbs.	12.9 lbs.	2,000 lbs.	12.9 lbs.
April 30	1,428 "	12.8 "	992 "	10.2 "	1,730 "	9.2 "
Aug. 23	1,405 "	9.3 "	800 "	10.2 "	1,226 "	5.0 "
Nov. 15	1,391 "	9.2 "	758 "	10.0 "	1,150 "	4.5 "

At the end of one year, little over one-third of the nitrogen remained, hence the great loss in spreading manure in the open barnyard and allowing it to remain all summer. I believe the best results are obtained by taking the manure from the stables to the field, and spreading it just as it is made, during the winter.

Chemists tell us that there are only two ways in which manure can lose its value, i.e., by fermentation or by washing. There is no loss by fermentation if the manure is spread either in winter or during the dry weather in the summer. Our land is heavy

clay and clay loam, and it is underdrained. Some farmers say the manure will lose much in the spring before the frost is out of the ground, but well-drained land does not freeze so hard as undrained land. In the former the land is full of air, and as soon as a thaw comes it is open and the water filters through the soil into the drains. It has been proven by analyzing a ton of manure, then spreading it on the boards until the rays of the sun extracted all the moisture, and analyzing again, that there was almost no loss of the fertilizing elements.

Some believe in taking the manure out and leaving it in piles until spring, but if the piles are large, fermentation will take place, and consequently loss. If the heaps are small, in the following crop there will be a bunch of strong grain where each heap was laid. We should cut all the straw we use for bedding, as it takes up the liquid manure better and is easier wrought into the soil. I believe in working all the manure in from the surface, and not plowing it down.

Taking the manure out in winter is also a great saving of labor in the busy season during the summer, when labor is often scarce and dear.

I think it more satisfactory in applying manure to put it on corn and root lands. If manure is applied to a crop of oats, there will be a strong growth of straw which is likely to get laid down, and the crop of grain will not be much benefited, but when applied to corn or roots, the result is, in my opinion, much more satisfactory.

Before a farmer purchases any kind of a fertilizer, he should see that there is no loss in the fetrilizing elements in the manure made on the farm.

DISCUSSION.

Q. Is there any other element in manure than nitrogen and phosphoric acid and potash ?

A. D. C. Anderson, Rugby : Yes, the organic matter in barnyard manure is the most valuable part of it. It creates humus. There is about 500 pounds of decayed vegetable matter in every ton of fresh manure.

Q. How would you keep up the fertility of naturally poor land ?

A. By applying barnyard manure. Plow in clover as manure, but in a section like this, where dairying is the main industry, it would be better to cut and cure the clover hay, feed it to the cows, returning the manure to the land. A two-year-old clover sod gives nearly eleven tons of roots to the acre.

Q. Is there any loss from drawing manure direct from stables in winter and spreading it on the snow ?

A. No, but I would not spread it on steep hillsides, or on a low, flat field covered with water in the spring.

Q. How do you recommend caring for manure ?

A. Myron A. Gee, Fisherville : By making in loose boxes with stock running loose, and drawing direct to the soil, by piling in compact heaps, until you have sufficient to draw out. Keep barnyard well beeded with straw.

Q. Will not the strength be lost by leaching ?

A. No, not if spread on the ground or on a little snow. The manure doesn't thaw out as soon as the snow, and the soil will absorb the water that soaks from it.

Q. Do you spread or pile it in small heaps ?

A. Spread ready to plow under, and plow as soon as frost is out deep enough. The spring frosts will crumble the ground.

Q. Do you prefer spring to fall plowing ?

A No, but I prefer to plow a field in the spring rather than make a bad fallow.

Q What crops would you put on the spring-plowed fields ?

A. Peas, corn or roots.

Q. Do you advise hauling manure out in winter ?

A. Erland Lee, Stoney Creek : Yes, as a general thing, but not in deep snow, nor on rolling land.

Q. Do you advise heavy manuring ?

A. No, I prefer manuring a larger area and going over it once in three or four years to once in six or eight years.

Q. Do you recommend us all to sow land without plowing ?

A. No ; it might not he applicable to your soils, but I would ask you to try it on a small scale first.

THE CARE OF MANURE AND HOW TO APPLY IT.

By James McFadyean, Walton

When I consented to read this paper it was only on the condition that you expect nothing new, nothing but what you have all heard before, and that I would merely open the subject and leave the discussion with yourselves, from whence the real benefit of these Farmers' Institute meetings is drived.

I need hardly tell you that at the present time in this Ontario of ours the question of the care and management of manure is becoming more and more important. I am sure it will not be disputed that our soil is not as productive as it was fifty years ago, when it contained all the stores of fertility that had accumulated for ages. But when I had given the subject some consideration, I came to the conclusion that I at least could lay down no hard and fast rules by which every farmer could take care of any apply the farmyard manure. There are so many conditions to be considered, and so many circumstances to contend with, over which we have no control. However, a few general principles may be adhered to.

Cut the Straw. To my mind, the proper care of manure commences with the cutting of all the straw, which can be done at the time of thrashing at a very moderate expense. It may require the exercising of a little patience while the grain is still in the shock, that it may become thoroughly dry, and cost us the battening of our barns that it may be kept so. Then we have all the straw in less bulk than that occupied by the sheaves, and in a position and under the most favorable conditions to be used either as a feed or bedding, to the best possible advantage. There is no better bedding than the cut straw, from the fact that a greater body of it lies close to the floor to soak up the liquid manure, and if we could be impressed with the value of liquid manure, we would as far as possible have all stable floors water-tight, that the liquid might be preserved and mixed with the solids.

Manurial Value of Food Stuffs. To make good manure we must feed good food. Manure made from feeding straw alone is barely worth the handling. The same authority tells us it is worth only from 70 to 75 cents to the ton of straw fed, while that from a ton of timothy hay is worth $2.50. That from clover hay is worth $4 ; from pea meal, $5.40 ; from bran, $6, and from oil meal, $10.

Sell Only the Finished Product. Now, we have the maintaining of the fertility of our land in view. We must feed our hay and coarse grain on the farm, and convert them into money through the medium of butter, cheese and meat, and leave the manure heap so much the richer. If we sell a ton of cheese, say at 9c per pound, we would receive $180, and how much of the fertility of the farm have we sold ? Say it takes ten pounds of milk to make a pound of cheese ; and the same authority tells us there is 96 cents' worth of fertility to the soil in a ton of milk, and there will be $9.60 in ten tons, and if the whey be fed on the farm its fertility is worth $3.50. The net amount of plant food sold would be worth $6.10. Now suppose we sold clover hay, it would take thirty tons at $6 to bring us $180, and as clover hay, after being fed to stock is worth $4 a ton as a fertilizer, we have sold $120 worth of plant food from our farm. And this is only another proof of what observation tells us, that the farmers who are carefully and judiciously feeding their hay and coarse grain are the men who are maintaining the fertility of their land, and making some money, also.

Care of the Manure. Now, I think it is an acknowledged fact that stable manure spread over the barnyard and exposed to the action of the snow, rain and sun, becomes reduced in weight and value. The very essence of plant food is leached out if it goes where it is least needed. As it is taken from the stabls, byres and pig pens it should be mixed and kept under cover, or, second best, piled up in heaps. Manure is capital we have to invest that does not improve with age nor increase in value with handling, and the sooner it is bearing interest the better for ourselves.

If the straw has been cut and is reasonably free from foul seeds I would recommend spreading it broadcast upon the land where it is to be applied as soon as possible, if the land is not to rolling to subject to flooding in the spring. I believe that most soils are capable of retaining that portion of it that it requires, just as well as he plants are capable of extracting from the soil what they require. I think this statement is proven from the fact that our soil was so rich in plant food when man began to deprive her of her chances of retaining it.

Better Hauled Out When Made. By an experiment conducted at the Ottawa Experimental Farm, and which lasted over a period of years, it was proven that an equal weight of fresh stable manure and of well-rotted manure, applied to all the principal crops of the farm, gave practically equal results, a slight difference being in favor of the fresh manure. It is a great mistake to believe that manure wastes to any extent when spread upon the land. Unless there is considerable fermentation, there will be very little of the valuable elements escape by evaporation. I do not recommend too heavy an application at one time. We seek to have it divided, so that it will cover all the land every second year, if possible. If the manure is reasonably short, so that we may have it incorporated into the surface soil with the disc or spade harrow, cultivator or gang plow in the spring, and to about the same depth as we wish to sow our grain, its indirect value to the growing is the most natural and perfect plant food available, and it has indirect results that no crop may be as great as its direct value as a plant food. I believe that farmyard manure is the most natural and perfect plant food available, and it has indirect results that no

commercial fertilizer can give, because it adds to the soil so much vegetable matter, so much humus, by which all clay and sandy soils especially are greatly benefited, though not just yet available as plant food. But whenever there is a decaying of vegetable matter there is always a certain degree of hat formed. We see this very plainly in the manure heap. Then let us have this heat formed in the soil, that the growing plants may derive some benefit from it, and the soil will be made more mellow, crumbly andporous, because of the heat and moisture.

Preserve the Soil Moisture. To have two or three inches of the surface soil mixed with this decaying vegetable matter makes for us the very best possible sponge for holding the frequent showers, until such time as the growing plants can make use of it. Here again the manure heap teaches us an important lession, for it will be the last place to dry out, and as the water is the medium by which plant food is conveyed from the soil to the plants this is a benefit worthy of our consideration. Many people believe there is quite enough moisture in the soil in the spring to nourish an average crop, providing it is all preserved and not allowed to evaporate. The movement of water in the soil is due to a sympathetic nature, or the capillary attraction that one particle of earth has for another. Suppose the particles of soil be as grains of wheat in a bin, and if one grain be dry and its neighbor be saturated, this sympathetic nature or capillary attraction will bring about a uniformity, and in this way the water will continue to move from the saturated particles below to the dry ones above, in proportion as the grains of soil are closely packed to each other, and will rise right to the surface if not checked, and be evaporated by the heat of the sun. Now, if we, by having two or three of a looser soil mixed with the manure to keep it open at the surface, to check this evaporation, and at a place where the roots of the plants are searching for moisture, they will have the first chance to use it. This is very nicely explained and understood by the rise of oil in a lamp wick. If within a little of the top the texture of the wick be broken or looser the oil will not rise to feed the flame as readily, but will rise to where the wick is broken just as well. But when all is said and done, the important thing for each farmer is to have his mind impressed with the conditions and requirements of his own particular farm, and his own particular fields, for different soils need vastly and entirely different treatment. For instance, we might plow down a coat of rough, strawy manure into a stiff clay soil with advantage, while with a light, black loam we had better let it rot some other place.

Again, he must study his different crops. We have invariably had better crops by manuring the root land the fall before, while with spring cereals, if the manure is sufficiently short to allow a thorough cultivation of the surface soil to make a seed bed, I would recommend working in the manure at the same time and to the same depth, while for fall wheat it would, perhaps, be as well to have it plowed in a little deeper.

GREEN CROPS AS FERTILIZERS.

By Duncan Anderson, Rugby, Ont.

Perhaps there is no subject of greater national importance to us as Canadians than that of how we can maintain the fertility of the soil, nor can we conceive of a father leaving to his son a worse legacy than that of an exhausted farm, from which he has to live, and perhaps, pay bequests to other members of the family.

There are four methods of maintaining soil fertility, viz. : (1) Barnyard manure ; (2) rotation of crops ; (3) thorough cultivation, and (4) plowing in green crops for manure.

If we study agricultural science we are told that the land is rich in plant food, if we can only make it available to plants, and the soil of average fertility has enough potash, nitrogen and phosphoric acid to give several hundred grain crops in succession, if we can only get it out.

An application of humus, in the shape of organic matter in barnyard manure, or the plowing in of either clover or peas as green manure, which returns to the soil a liberal supply of decayed vegetable matter that forms humus, it having the power to use to the best advantage the plant food with which nature has so bountifully supplied our soils. Humus is the key by which we can unlock nature's storehouse and get for our benefit the agricultural wealth lying dormant therein. I am thoroughly convinced that continuous grain-growing tends to diminish the humus in the soil, and unless we return it in some shape the mechanical and physical condition of our land will become so run down between over-cropping and the necessary farm operations of plowing, harrowing and cultivating, which have a tendency to so dissipate the humus in the land, that most soils will in a very few years cease to give profitable returns.

Prof. Shutt says that humus is of great agricultural importance, because it is the natural storehouse and conservator of nitrogen, which element is the most expensive of all plant foods when it becomes necessary to purchase it in the form of commercial fertilizers.

Humus serves to increase the absorption and retentive power of soil moisture.

Humus regulates and protects against extremes of soil temperature.

Humus opens up, makes mellow and friable, heavy clay soil.

Humus serves to materially diminish the loss of fertilizing elements by drainage, thus permanently improving in the best way light soils.

The chief value of plowing in a crop of green clover for manure lies in the amount of nitrogen, otherwise unobtainable, that will be turned into the soil, which, when decayed, forms a liberal supply of humus. Also the clover, being a deep-rooted plant, brings up mineral matter, such as potash, lime and phosphoric acid, from the under soil, that other farm crops cannot reach, making use of them in such a way that other crops may feed on them. The practical question is : "When should a crop of clover be plowed to get the best results ?" I always plow in before having, not more than four inches deep ; roll and keep cultivated with the disc or cultivator and smoothing harrow every eight or ten days until the first week in September, and sow to fall wheat.

If the winter is at all favorable I always get a good crop of fall wheat. A rolling coulter is better to plow in the ordinary green crops with than the ordinary plow coulter. A fair crop of clover gathers in its stalks, leaves and roots, per acre, 138 pounds of nitrogen, 46 pounds of phosphoric acid, and 115 pounds of potash.

Of course by this method I lose a crop, but I get the land clean, in good heart and tilth for succeeding crops. As I work two farms, the outlying one being nearly a mile from home, it is too far to draw manure. I keep up its fertility by plowing in green crops. When a catch of clover is missed I sow peas, but not having the same root growth as clover, is not its equal as a green manure, but it comes next, and supplies a large quantity of humus to the land from its rank vegetable growth. When decayed, it has a tendency to keep the soil in fine, mellow condition.

As an instance, there was a ten-acre field upon which I had missed a grass catch, on an outlying farm. It was sown at the rate of two bushels per acre with peas. When they had reached their growth the crop was plowed in. A stout chain was used to drag the peas into the furrows. The land was rolled, cultivated and harrowed repeatedly until the wheat was sown on the 3rd of September. The following year we threshed and sold 420 bushels of marketable wheat, Garfield variety, that tested 63 pounds to the bushel. Suppose I had harvested the peas and sold the entire crop, and followed it with a crop of wheat, and then disposed of it, I would not have received as much for the pea and wheat crops as I did for the one wheat crop. Then the soil would have been much more exhausted from over-cropping.

However, I would not recommend the farmer under average conditions to lose a crop by plowing in green crops, because better results can be obtained by making the clover into hay and feeding it on the farm, for no feed comes nearer to summer conditions in winter than well-cured clover hay. An average crop of clover which has been made into hay will leave between ten and eleven tons of root growth per acre. Add to this the fertillzing effect of the broad leaves shading the surface of the soil, excluding the sun's rays, which seems to have such a beneficial effect on the land, so that we can always depend upon getting our best crops of corn, roots and grain on a clover sod.

No rotation can possibly be complete without clover being one of the most prominent crops in the rotation, as it both helps to clean and enrich the soil. The best way to reach the most benefit from clover as a manurial crop would be to look closely after the fertility of the soil, before it gets too far run down, by sowing with the grain crop preceding the root crop, eight or ten pounds of Mammoth Red Clover to the acre. Let no animals pasture on the field in the fall. Allow it to grow until the 15th of May, then work the field for corn and roots this fall, and spring growth of roots and clover, would weigh between thirteen and fifteen tons per acre. This fall and spring growth of clover will contain per acre about 100 pounds of nitrogen. When placed at its lowest commercial value, ten cents per pound, would be worth in nitrogen alone $10 an acre. The cost would only be from 80 cents to $1 an acre for clover seed, without missing a crop. To ensure a catch of clover I have had fewer failures when the seed was sown in front instead of behind the drill. The reason is that when it is sown behind the most of it falls into the same track as the grain, and the grain, being the stronger plant, gets the fertility first. The young clover plants are so shaded among the grain roots that they make a weak growth. When the harvest is taken off and the young clover is exposed to the hot sun, and there comes an after-harvest drought, it too often burns out, and the clover crop is lost. But when the seed is sown in front of the drill, most of it is pushed into the space between the drill tracks ; it gets more sun and air ; is not so much shaded with the grain crop ; makes a stronger and more vigorous growth ; the young clover gets a chance to develop in the early summer ; has a broader leaf, with a deeper root and stronger vitality, so that when

the grain crop is removed it is able to withstand much better the after-harvest drought, which is so damaging to the young clover plants.

When clover is made into hay and fed on the farm, plowing down the roots that have drawn from the under soil valuable mineral ingredients, will have a very productive effect on the land.

The value of clover as a fertilizer is not as generally appreciated as it should be, for there is no plant known to the farmers of Ontario which is of so much value as our common red clover.

Q. You said that the catch of grass is surer by sowing the grass seed in front of the drill, instead of behind.

A. The reasons are, that if sown behind the drill, the most of the grass seed falls in the same track as the oats or barley. The grass shades the young clover, and, being the strongest plant, saps up the fertility. The young grass makes slow growth with a weak root, and when there comes a severe early fall drought, much of the grass will burn out. But when sown in front of the drill, the most of the seed is pushed into the open space between the drill track. It gets more air and sunlight, makes a stronger growth, with a deep root, and withstands the fall drought better than when sown behind the drill.

Q. Would you pasture the first year after seeding to grass ?

A. No. I always make the clover into hay the first year. Clover hay is the best thing for feeding fattening cattle.

Q. Do you cultivate five inches deep throughout the entire summer ?

A. Yes ; after every shower of rain, when the land is dry enough to carry the horse, I cultivate at least five inches deep.

Q. How deep do you go with the grubber-tooth sub-soiler ?

A. From ten inches to a foot.

Q. What effect does this deep stirring of the subsoil, without bringing it to the surface, have on the next crop, and especially in getting a catch of clover ?

A. I have never failed to get a good stand of clover since I began to open the subsoil with the grubber, and it also has a very beneficial effect on the grain crop.

CULTIVATION OF ROOTS.

By James Tolton, Walkerton, Ont.

The changed conditions of agriculture in this Province demand not only a rotation of crops grown upon our farms, but the growing of such crops as will tend toward keeping up the fertility of the soil and assist in eradicating the weeds, that are becoming more abundant from year to year.

It has also become a recognized fact that climatic conditions and the nature of our soils are particularly adapted for the producing of stock for breeding and feeding purposes, and also their products, as meat, cheese, butter and wool.

To get the best results from these different lines of industries and their products, it becomes imperative to cultivate along with our cereals and grasses such crops as mangels, sugar beets, field carrots and turnips, known as roots, that we may have cheap and succulent foods for our stock during the winter months.

Fall Cultivation. Roots can be grown following any of our cereal crops, clover or grass, and the first thing in order is the preparation of the soil. If the root crop is to follow a grain crop, as soon as practicable after the grain is harvested plow lightly from two to three inches deep, and with a two-furrow or gang plow, or other implement that will stir the soil to that depth, immediately following with the harrow once or twice. This process will stimulate the weed seeds to germinate, besides killing any grasses, and will also pulverize the soil to that depth. After these operations apply barnyard manure at the rate of twenty to twenty-five two-horse wagon loads to the acre. Then, as late in the fall as practicable, plow with a single plow to the depth of six or seven inches deep, and if the soil is clay it is better to harrow and rib it, in order that the soil shall be in the best possible condition for the action of the frost and snow to pulverize and fine down the soil.

Manuring. Barnyard manure, if sufficient, is on hand or made upon the farm, is the cheapest, and gives as good results, especially if made from stock fed in the stables for stock or dairy purposes. However, if sufficient barnyard manure is not available, it can be supplemented with salt at the rate of at least four hundred pounds per acre. If the fields are ordinarily level the manure may be applied during the late fall or winter months, during slack times, or when the pressing work of spring seeding is over, during the latter part of the month of May.

Spring cultivation may be commenced as early as time will permit, and as soon as the manuring is completed. It should be plowed so that the manure may become incor-

porated with the soil. Artificial manures should not be applied until just before ridging up for sowing. After plowing in the manure harrow and cultivate with a spring tooth cultivator, or gang plow, so as to thoroughly pulverize the soil and cause the seeds of weeds to germinate. Always bear in mind that the more of this kind of cultivation one does, the less hand work will be required during the growth of the crop, and when labor is less expensive and the pressing time of the hay and grain harvest.

Just before ridging up for sowing it is better to run the land roller over the field. This process will aid in breaking clods or lumps, and will make the soil nicer for ridging and drilling for sowing. The ridges should be twenty-six to twenty-eight inches apart.

Sowing. For mangels, sugar beets and carrots, the sooner the better. For Swede turnips the time is not a settled question, some claiming the latter part of May as the best time, while others say from the 10th to the 20th of June is better. The advocates of the early period claim that it enables them to get the earlier stages of cultivation and the first hand hoeing done before the hay harvest commences. The advocates of the latter period claim that the turnips are not as liable to be attacked by the turnip fly pest, and that the roots are sounder and sweeter, and, of course, better food for the stock, and having better keeping qualities. My own experience is in favor of the later period.

In connection with this question I would like to say that last year, 1900, many fields of the earlier sown were almost destroyed by the striped caterpillar, whilst they did little or no damage to the later sown, particularly to those sown the latter part of June. But this is only the experience of one year, and might not be repeated.

The 1st of July is soon enough to sow Greystone and other varieties of white and soft turnips.

Summer Cultivation. As soon as the plants have two or three rough leaves the horse hoe should be run through between the ridges or rows, cutting within three or four inches of the rows. Follow this by hand hoeing and singling the plants, leaving them from twelve to fifteen inches apart. The horse hoeing should be repeated at least another time, or twice is better. The hand hoeing should be repeated a second time to cut up any weeds that may have been missed the first time.

Harvesting. For mangels and carrots the only meth I know of is to pull by hand and cut the tops off with a knife, or wring them off by hand. As sugar beets should grow almost entirely under the surface of the soil, it is a good plan to plow along the row as closely as possible, without damaging the roots, then pull. For turnips, the speediest, cheapest, and best way to cut the tops off with a sharp hoe and harrow out.

In conclusion allow me to say that the most suitable soils for Swede and other turnips is sandy or heavy loam. They do not do well on heavy soils such as clay. Mangels, sugar beets and field carrots can be grown most successfully on both these soils.

DISCUSSION.

Q. Do you harrow after fall plowing ?

A. No. The soil is in better condition for winter without harrowing. It does not get so compact, and is mellower and in better condition for a seed bed in the spring.

Q. How deep do you plow ?

A. A difference of opinion on that question.

Q. Do you lose any fertility of the soil by permanent pasture ?

A. No, not to any noticeable extent.

Q. Do you use the roller in the spring ?

A. Why, yes, but it must be used with discretion and judgment. It should not be the last operation, but should be harrowed after rolling.

Q. Do you not think a good rain would have the same effect as harrowing ?

A. No.

Q. Does rolling after the grain is up, have the effect of killing any of the young plants of timothy and clover ?

A. Yes. It must kill some, where lumps of earth are broken.

Q. Do you think rolling in the spring is necessary on soils that have been plowed in the fall, and only a seed bed made in the spring ?

A. No. I do not think it is necessary.

Q. How far apart do you leave the mangels in the drills and between the drills ?

A. D. C. Anderson, Rugby : Have the drills thirty inches apart, and the plants from eighteen to twenty-two inches apart. Sow about one inch deep.

Q. Do you roll the mangels after sowing ?

A. Yes. I put the field roller on the drills. It is all important that the land should be pressed close to the seed to cause it to germinate.

Q. Do you sow the mangels before grain seeding in the spring ?

A. No. We have the land prepared the fall previous, but we always like to have the soil a little warm before sowing.

Q. When do you apply manure for roots ?

A. What manure we have in the summer and fall we apply to the land for mangels, and draw out in the winter for corn, potatoes and turnips.

Q. Is salt good for roots ?

A. Yes. Salt is beneficial to mangels, sugar beets and turnips, but is deadly to carrots.

Q. How do you prepare your mangels for feeding ?

A. W. C. Shearer, Bright : Pulp or boil.

Q. Does the cooking of food give any advantage except warming ?

A. No. The cooking aids the digestibility in no way. We cook none in summer.

Q. How would a piece of sod that was plowed in the fall do for mangels ?

A. Quite satisfactory. Should be manured after plowing, and manure worked into surface soil.

UP-TO-DATE METHOD OF GROWING POTATOES.

By Wm. Naismith, Falkenburg, Muskoka.

The value of the potato as an article of food, and the wide difference between a heavy crop of handsome tubers, and the many small and deformed samples too often seen in the general market, which are neither a profit or credit to the producer, and a source of annoyance to the cook and consumer, has induced me to place before the public, through the medium of the Farmers' Institute, my method of culture. This method has gained for me the highest awards at the principal exhibitions of this province, including Toronto and London, and produced a yield of 400 bushels of potatoes per acre, handsome in appearance and perfect in quality, and if the thousands of readers of this valued distributor of reliable information, who are engaged in the peaceful art of agriculture in every part of this great Province of Ontario, receive benefit therefrom, I shall be amply rewarded.

The Soil. The soil best adapted for growing potatoes is a sandy loam, with a gentle slope to the south or east, and with a good natural drainage. But as we cannot always choose location or soil, we endeavor by tilling, manuring and by exposing the soil to the pulverizing influence of the atmosphere, to improve its texture, and thereby its fertility. I have obtained the best results from planting after peas, land having been broken from sod the previous season, or plowing under a second growth of clover. Carefully avoid planting potatoes on land where a series of grain crops have succeeded each other, especially wheat or oats. If pea stubble is used, spread evenly in the fall from twenty to thirty loads of good barnyard manure to the acre. Plow two inches deeper than old furrow. Gather lands up in centre, opening up all water furrows to drain all surface water during winter. If clover sod is used turn down with a light furrow when clover is full grown, and before stalks get woody, spread evenly from ten to fifteen loads of manure any time, fall or spring. A medium crop of clover is as good as half manure. Do not fear scab if fresh land is used and pure seed planted.

Planting. Begin operations about May 10th if land is dry. Harrow with spring tooth or disc harrow, then plow and harrow fine. By this process the manure will be thoroughly incorporated with the soil, which is now deep and mellow, and in good condition to receive the seed. If a large area is to be planted a potato planter may be used, but for a few acres the plow will answer the purpose. Plant seed every third furrow, ten inches each furrow, making the rows thirty inches apart. From four to five inches deep is sufficient for ordinary soil, for heavy soil a little shallower, and for very light sand soil a trifle deeper.

The Seed. For planting select well-shaped, large, but not overgrown or deformed tubers, as like begets like. Cut to single eye sets, and plant as soon as convenient after being cut. If not immediately planted sprinkle with land plaster, which will prevent them from heating or adhering to each other. There is no crop that is so much benefited by the introduction of fresh, new seed as the potato. It seems to take on new life and flourish wonderfully if the change is to well-selected stock, grown as far north as the variety will mature. This is a point on which the most prominent authorities universally agree.

Select a Variety That Will Mature. A potato to be dry and floury when cooked must be ripened, and we have too many varieties at the present time with nothing to recommend them but large stalks and handsome tubers, half matured, and when frozen down in the fall too soggy to be any use on the table. When a potato is lacking in table quality it should be discarded.

Plant From May 10th to 20th. It is very common, at least in the northern part of Ontario, to have a light frost about June 1st. By planting at the date named the young

plants will invariably escape injury, and at the same time have the full advantage of the months of June and July, the period when potatoes do nearly all their growing.

Cultivation. As soon as the first shoots appear run a light harrow lengthway of the rows to destroy all young weeds, and stir the soil. About a week later commence cultivator, providing you can see plants plainly. With care the cultivator can be run quite close to the plants, so that little or no hand work is needed. Continue cultivator every week until July 7th, or until young tubers are the size of marbles. Then hill up, using only the cultivator, with the mould boards attached. This leaves low, broad ridges, inclining inward at top, thus diverting rain to roots of plants, and forming a large, loose bank for the young tubers. Avoid using a plow to hill up with, as it leaves ridges too high and narrow, and buries the young tubers too deep, and well formed tubers invariably lie near the surface. Never dig potatoes for winter or spring use, nor yet for seed purposes, until the tops die down.

Insects and Insecticide. Keep free from bugs by using Paris green. We find the dry system the best, using hand bellows. Never let the young beetles get a start, for you will find it hard to grow good potatoes if the stalks are stripped of their leaves.

Every seedsman sells a variety of potatoes, and each is claimed to be "the best." After experimenting with every known variety, I find the following the best at the present time, at least for this locality.

The Best Varieties. First, for extra early : "Improved Ohio, Jr.," "White Beauty," "Early Ontario." For second early : "Rose of the North." "King of the Hebrons," and for main crop, and especially long keepers, "Standard White," "American" and "Improved Empire State."

With good seed of the varieties named, and following the few simple rules I have laid down, any ordinary intelligent farmer can secure a good crop of potatoes, for nowhere in the world can a better sample be produced than in the Province of Ontario.

DISCUSSION.

Q. Do you plant your potatoes from small or large seed ?

A. D. C. Anderson, Rugby : Plant always large setts from large potatoes.

Q. What is the best time to plant potatoes for the main crop ?

A. Richard Attridge : I have been growing potatoes for market all my life, and this last two or three years have struck some new methods. I prefer to plant my potatoes on sod, clover sod, if possible. In the spring I take discs and cut the sod up from three to four inches deep. Then I plow the ground from four to five inches deep, roll it down and give a thorough good harrowing. Then I get my neighbor's potato planter and plant my potatoes from eighteen to twenty inches in the row, with rows three feet apart. I plant from the 10th to the 20th of June, and then harrow every few days, if the land is in a suitable condition, until the plants are three or four inches high, then go on with the scuffler and keep them clean, hilling a few inches, very lightly. Since I have adopted this plan I have never failed in getting a good crop of potatoes and of good table quality. By planting late we are not troubled with the bug. In fact, last year I did not use any Paris green.

Q .What variety do you plant ?

A. Carman's No. 2 has given me good crops, and I like it for its fine table quality.

Q. Which system of cultivation do you practise for potatoes, level or hilled up ?

A. F. A. Sheppard, Queenston : Level, in all cases, as we can conserve the moisture better.

Q. How can I grow tomatoes reasonably early without a greenhouse ?

A. By putting up a hot-bed in March and sow the seed in it. Then transplant in the open ground, between the middle and 24th of May.

A GOOD HURDLE FENCE.

On many farms a movable fence is deemed as essential as improved machinery. There are at the same time thousands of farmers in Ontario who would as soon think of moving their barns as their fences. The old method of continuous grain-growing allowed of permanent fields, but present methods of dairying, including the growing of soiling crops, does not lend itself to such conditions.

The illustrations on this page represent the hurdle now used on the Ontario Experimental Farm at Guelph for sheep and swine. For pigs we find it necessary sometimes to stretch a twisted wire across its centre space to prevent them climbing through. If heavier material be employed than is here recommended it will also serve for a cattle fence.

Mr. A. E. Crawford, foreman of the Mechanical Department, O.AC., writes :—

"This is beyond doubt the best hurdle we have ever tried on the Farm. It resists the pressure of both wind and animals, is not easily displaced, and does not totter or lean over, as is the case with so many hurdles. It is also easy to set up, as one man can lock the panels together as fast as the teamster can hand them down from the wagon. When made of twelve-foot stuff each hurdle covers eleven feet of ground in a straight line, and costs 40 cents for the material. Our students here make them all, and two boys can nail together 100 hurdles in a day of ten hours."

FIG. II

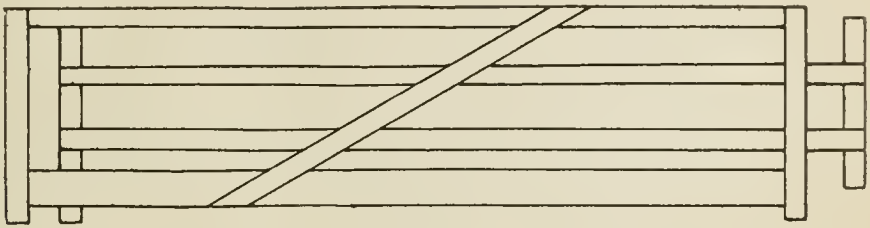
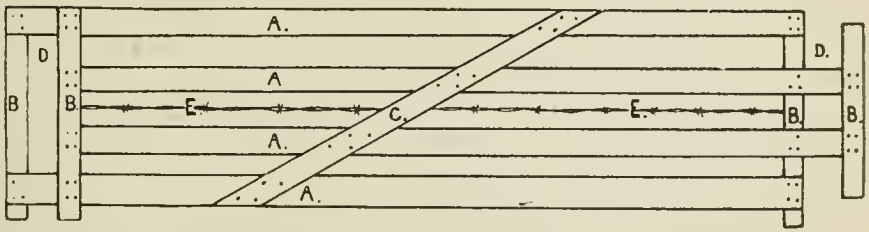


FIG. I



Description of Fig I., Section of Hurdle Fence. (A) Fence board, I x 4", except bottom board, which is 1 x 6". (B) Slats, 1 x 4". (C) Brace, 1 x 4". (D) Open space, 6", or two inches wider than the slats. (E) For pigs a twisted wire is sometimes added in centre space, 2 3-4 inch wire nails should be used where one-inch lumber is used. In setting up fence the right end of No. I. interlocks left end of No. II.

Description of Fig. II. Same as Fig. I., except the upright slat (B) is reversed. This should be done with alternate hurdles, as they will then bind tightly together, instead of prising off, as they would do if all were made alike.

HORTICULTURE.

BANDAGING FOR THE EXTERMINATION OF THE CODLING MOTH.

By J. E. Orr, Fruitland.

It is now generally conceded that we cannot rely altogether on spraying with poisonous substances for the destruction of the codling moth.

There can be no doubt that spraying destroys many of the first brood, but there are many that escape to produce a second brood, numerous enough to seriously injure the crop, and restore the original infestation by the following spring. Then after the season's work we are about where we started.

To fight this insect successfully we must wage a war of extermination. We must adopt some plan which will lessen their numbers year by year, until they shall be reduced to zero.

I do not wish to minimize the value of spraying. It is important, and destroys many of the first brood before they injure the apples, and it is very little additional expense to apply the insecticide when spraying with Bordeaux mixture. But spraying must be supplemented by something further. Bandaging the trees, we believe, will exactly fill the gap.

Life History. It might not be out of place here to review briefly the life history and habits of the codling moth, which many people do not clearly understand.

The Egg. "Every living thing originated in a cell or egg." The egg of the codling moth is a tiny whitish spot, about the size of a very small pin head. It is deposited anywhere on the apple, and sometimes on the leaves or twigs. They may be detected with the naked eye by close examination. I have seen them deposited on the sides of a bottle in which the moths were confined. The old idea that the apple was "stung in the blossom end" is, therefore, a mistaken one. The formation of the insect makes it impossible for it to deposit its eggs except on a surface.

The Larvae. The egg hatches in about a week. The first meal of the young worm is from the fruit or leaf on which it hatches. It soon starts tunneling toward the core of the apple, usually entering at the blossom end, where it can find the best shelter while beginning operations. It remains in the apple about three or four weeks, until fully developed as a worm. Then it leaves the fruit and seeks a place to pupate.

The Pupae. The earliest of the first brood arrive at this stage about the 15th of June. The worm now leaves the fruit and seeks a sheltered place, spends a couple of days spinning a cocoon, and in two or three days more changes to a pupa. After about two weeks spent in this state it emerges as a moth and deposits eggs for the next brood.

I have never found the pupae later than the 15th of August. Larvae which mature after that date spend the winter in cocoons, pupate the following spring and produce the moths which lay the eggs for the first brood.

As the larvae winter in different stages of maturity, and as the egg-laying period of each of the broods of the moth extends over several days, the different broods are not well defined, and we will observe the codling moth in all stages on the same tree towards the middle of summer.

As before stated, I have found pupae as late as the 15th of August. These would emerge as moths about the 1st of September and deposit their eggs. Thus we would have the young worms entering the fruit just about the time of picking. Many apples which are apparently sound at this time open up wormy after being shipped.

It is not the first brood which injures the crop most seriously. The apples which are entered by the worms early in the season will fall, and very often our fruit is the better for the thinning. But after the apple has grown to a considerable size and is attacked, it will remain on the tree and continue to develop, and the loss will be a serious one, and, worst of all, we will have the young worms entering the fruit about picking time. Now, these later broods, which do the most serious damage, are the ones we cannot fight by spraying.

It has frequently been stated that only one worm enters an apple. This is a mistake, however, as I have seen as many as five enter a single apple.

Bandaging. Knowing the life history of the codling moth, we will now be able to appreciate the system of bandaging. The idea of bandaging at all is not new, but the idea of compulsory bandaging is quite novel. The moth will fly from one to two miles, consequently co-operation is necessary.

Before bandaging, the trees should be thoroughly scraped to remove all rough bark, which would otherwise supply a shelter for the larvae after leaving the fruit, when it is

seeking a place to pupate. If this is well done they will be forced to seek shelter under the bands.

The band consists of a strip of sacking or burlap, about a foot wide, and long enough to pass around the trunk of the tree at about three feet from the ground. It should be folded two or three times, and may be held in place by a string.

To destroy the insects which collect under the band, we untie the string and raise one end of the band, and carefully destroy the insects as they come into view. For this purpose we use a pen-knife.

The bands should be examined about the 15th of June, and every twelve days afterwards until the end of August. They should then be replaced, and examined early the next spring.

There are devices on the market for the destruction of the codling moth when in the adult or moth stage, by attracting it into traps by means of a torch placed in the orchard at night. It is claimed that in this way large numbers can be destroyed. It would appear, however, that it would be unsafe to trust to this plan, as the moth would probably deposit many eggs before being trapped. It would seem much safer to destroy them by bandaging before they arrive at the moth stage.

The Act

(1) This act shall be known as the Noxious Insects Act.

(2) The following provisions of this act shall come into force and take effect as to every municipality the Council of which shall by by-law declare this act to be in force therein. The council may at any time repeal such by-law, and thereafter this act and any regulations made thereunder shall cease to apply or be in force as to such municipality.

(3) Upon the recommendation of the Minister of Agriculture, the Lieutenant-Governor in Council may make such regulations for the prevention and destruction of insects injurious to trees, shrubs and other plants as may be deemed advisable. Such regulations shall come into effect and have the force of law after publication in two successive issues of The Ontario Gazette.

(4) Every municipal council adopting this act shall in and by the by-law adopting the same appoint one or more inspectors, whose duties it shall be to inspect all orchards and to enforce the provisions of this act and the regulations made thereunder, and to report upon the same to the council.

(5) In case the occupant or the owner of any lot neglects or refuses to comply with this act or with any regulations made thereunder, the inspector may cause the necessary work to be done, and shall within ten days make a report in writing to the council, stating the amount of the cost thereof, and the council may thereupon direct that this amount, or such part thereof as may appear to them equitable, shall be entered upon the collector's roll against such owner, and shall be collected in the same manner as other taxes.

(6) Immediately upon the passing of a by-law by any municipal council for bringing this act into force, the said council shall cause to be delivered to the occupant or owner of every lot affected, a printed copy of this act and of the regulations made thereunder, together with a copy of the by-law and the name and address of the inspector appointed to enforce the act.

(7) Any person interfering with the inspector, or attempting to hinder or prevent him in the enforcing of the act, shall, upon conviction thereof, before any of her Majesty's Justices of the Peace, be subjected to a fine of not less than one dollar, nor more than twenty dollars, and in default of payment of the same to be imprisoned in the common jail for the period of not less than ten days, nor more than twenty days.

Regulations

Copy of an Order-in-council approved by His Honor, the Lieutenant-Governor, the 25th day of April, A.D., 1901 :—

Upon the recommendation of the Honorable the Minister of Agriculture, the Committee of Council advises that the regulations for the prevention and destruction of the codling moth, made by Order-in-council of 24th May, 1900, pursuant to the provisions of the Noxious Insects' Act (63 Victoria, Chapter 47), be repealed and that the following be substituted therefore :—

(1) It shall be the duty of every occupier of a lot within the municipality, or if the land be unoccupied, it shall be the duty of the owner of such lot, after receiving notice, as provided in the act, to scrape all rough bark and all loose bark around wounds from all trees mentioned in this clause, and to place bands (as hereinafter described), upon all bearing apple trees and pear trees located upon said lot, and such work shall be completed to the satisfaction of the inspector not later than the tenth day of June each year.

(2) The bands shall consist of the device known as the "Expansive Tree Protector" or shall be made of "burlap" or "sacking" or equally heavy and otherwise suitable material, and shall not be less than four inches in width and of two or more thickness,

and shall be securely fastened at a convenient point between the crotch of the tree and the ground.

(3) Except where the Expansive Tree Protector is in use, the occupant or owner shall have the bands removed and inspected, and all larvae therein destroyed, and the bands replaced, at intervals of not more than twelve days, between the 20th day of June and the 20th day of September each year, and once each year between the 10th of November and the 10th of May following.

DISCUSSION.

Q. What is the outlook for planting winter apples ?

A. A. W. Peart, Burlington : I think that the outlook is good. The demand for No. 1 fruit in Great Britain is constant and likely to be so. As Manitoba and the Northwest Territories increase in population there will be an increasing demand there; and if scientific cold storage is reduced to a condition of readily available practice it may be possible to open foreign markets unknown to the Canadian trade at the present time.

Q. What about pears ?

A. I think that the question of profitable pear growing is largely involved in the practical solution of the cold storage problem. An efficient cold storage service to outside markets would give an impetus to the pear industry.

Q. Would you advocate planting plums largely ?

A. I think not. We have to rely mainly on our own markets for the sale of plums, and the net results of these last five years would indicate to me that the acreage of plums should not be increased under present conditions; otherwise, the margin of profit would be wiped out.

Q. How should scions for grafting be selected ?

A. From the tips of the branches, and not from soft shoots thrown out from the trunk or base of the main branches of the tree. They should be taken from healthy productive trees, which have a good record for size, quality and quantity.

Q. In top-working on hardy stock do you take scions from young or old trees, and when do you cut them ?

A. G. C. Caston, Craighurst: Always take them from bearing trees, and select them from the best bearers. This is important, because there is individuality in trees as well as in animals, and the scion you take for grafting carries its individuality with it. You will notice that some trees in a row of the same variety bear earlier and more than others. That is a case of individuality in the trees ; and it is from such trees as that you should take your scions for grafting. As to the time of cutting, you can cut them in the fall after growth has ceased and the leaves are off; or cut them in the spring after the frost is out of the wood and before growth starts.

Q. How do you keep them ?

A. Put them in damp sawdust, where they will be cool and moist, until the weather is warm enough for grafting.

Q. When should grafting be done ?

A. Take any fine, warm day as soon as the sap begins to circulate in the tree.

Q. Do you advise the top-grafting of the best commercial apples on other stock ?

A. Yes, by all means. I don't think I could give you better or more valuable advice than to top-graft our best commercial varieties on Talman Sweets.

Q. Why do you recommend the Talman Sweet ? Would not other varieties do as well if they are hardy ?

A. There are several good, hardy varieties that make good stock, but I know of none better or quite as good as the Talman Sweet for that purpose. It is extremely hardy and is of a spreading habit of growth. The limbs are well knit into the tree and do not break or split easily when loaded with fruit, and it makes a more perfect union with every variety grafted on it.

Q. What varieties would you top-graft on it ?

A. Spy, King, Baldwin and Greening.

Q. Would you graft the whole top at once ?

A. No, only a third. You should take three years to work a new top on a tree. If you cut off the whole at once you are very likely to kill the trees.

Q. How and when should fruit trees be pruned ?

A. The old adage, "Whenever your knife is sharp" is a good one; that is, a tree should be pruned as it grows, a little every year. However, if the pruning has been neglected and there is considerable thinning needed, the best time is from the first to the middle of June. If it cannot be done at that time, owing to press of work, do it early in the spring as near the growing season as possible. Never prune when the wood is frozen. There are three objects to be aimed at in pruning. To keep the tree in proper symmetry, to keep the top open to the sun and air (it is important to have a free circulation of air throught he top) and to get an even distribution of the bearing wood.

Q. What quantity of Paris green will be required to destroyed the tent caterpillar ?

A. I would use eight ounces to forty gallons of water, using it with the Bordeaux

Mixture, and be sure to use plenty of lime. I prefer to use the Ferro Cyanide test, always to make sure there is sufficient lime to prevent injury to the foliage, and spray when the young caterpillars are beginning to eat the canes. That is just before the blossoms unfold. If washed off with rain, repeat the dose. Those insects should be destroyed while they are small. It is much easier to destroy them at that age than when they are larger.

Q. Do you advise top-grafting Northern Spy on other stock ?

A. Yes, and I would like just here to emphasize that point. There are others that out to be grown on the same plan, as well as the Spy, particularly King and Baldwin.

Q In the case of the Spy, that tree takes from thirteen to seventeen years to come into full bearing, and then it does not last long. It is inclined to rot in the crotches of the limbs, and splits and falls away. That is characteristic of the Spy, but when top-grafted on the Talman Sweet it will come into bearing in half that time. I have seen them in full bearing five years from the graft, and they are seldom more than seven where a fairly good growth has been made. Then as to the King. That apple brings the highest price in the British market of any Canadian apple, but growers say that it doesn't pay, because it is such a poor bearer. Top-grafted on a Talman Sweet, it will bear far better than on its own stock. Both the King and the Baldwin are tender varieties, but by growing them in this way it increases their hardiness, because then you have a hardy trunk and roots, and that is where the failure occurs in tender varieties.

Q. Why do you recommend the Talman Sweet ?

A. In the first place, because it is hardy. It is not affected by sun scald or root killing. Also, it is a good grower, and unites well with any variety grafted on it. it has a spreading habit of growth, and another very important point is that the limbs are well knit to the tree and do not split or break when weighted with fruit. Of course, there are other varieties that do very well as stock for top-grafting on, but if I were planting an orchard for top-grafting I would use the Talman Sweet for the reasons stated. I regard this top-grafting of our best varieties on hardy stock as one of the most important points in orchard culture. It means larger yields, earlier bearing and better quality, and it means success in many localities with what would otherwise prove a failure.

Q. Is buckwheat a good crop for plowing in for fertilizing the orchard ?

A. No. While it adds a certain amount of humus to the soil, it adds little or no nitrogen. There is nothing so good as clover. One good crop of clover turned under when in full bloom is worth a dozen of buckwheat.

Q. Do you advise the use of Commercial Fertilizer in the orchard ?

A. Provided you can get plenty of hardwood ashes; you can keep up the fertility of the orchard by using hardwood ashes and plowing in clover. The clover is the cheapest way of supply the necessary nitrogen, while the ashes is the cheapest form in which potash can be supplied. Forty bushels per acre of good, unbleached hardwood ashes is a fairly good dressing every two years, or practically a bushel per tree to a bearing orchard, with a crop of clover turned under each alternate year, will keep an orchard in a good state of fertility. If ashes cannot be obtained potash must be supplied in some other form, such as kainit, and the best form in which to apply the phosphoric acid is in bone meal.

Q. In plowing in clover, do the tops or the roots furnish the most fertility ?

A. The roots, certainly. But in plowing in when in full bloom, while you get nitrogen from the roots, you add a great amount of humus to the soil by turning in the tops, and humus is a very important element in the soil of an orchard. Most of our orchards are suffering from a lack of it. If we could get such a condition in our orchards as we find in the forest, as to humus or mould that would be an ideal condition.

Q. Would you recommend the destruction of English sparrows ?

A. Wm. Hutt, Southend : Yes. They are meadow birds, and feed on insects that are found in meadows, and the injurious to farm crops.

Q. Are hawks beneficial or not ?

A. As a class they are. The marsh hawk is entirely beneficial. The large or broad-winged hawks are largely beneficial, seldom attacking poultry. The small hawks often destroy poultry and small birds.

Q. Should crows be protected ?

A. Yes, by all means. Corn can easily be protected from their ravages, and during all seasons of the year they kill insects which are destructive to corn.

Q. How do you keep crows from pulling corn ?

A. By putting a spoonful of thin pine tar or oil of tar in a tub of water. The seed corn may be stirred about in it for a few minutes and then dried, and no crow will touch it.

Q. What would you recommend for the destruction of the Hessian Fly ?

A. Late seeding to avoid the attack of the fly. A catch crop, sown early, for the fly to deposit its eggs in, and then plowed down later.

Q. What time of the year do you prune ?

A. To get the best healed wounds, prune as near the time as possible when growth takes place, i.e., in spring or summer, never in frosty weather.

Q. What will bring a tree into bearing ?

A. Good care and cultivation when young; vigorous pruning when old and unproductive.

Q. What time do you prune grape vines ?

A. In early spring, after danger of heavy frosts are past. From pruning then there is not the danger of canes being killed back by frost, as is too often the case with winter or fall pruning. Late spring pruning causes excessive bleeding and loss of sap.

Q. Would shallow cultivation kill bluegrass ?

A. Yes. Shallow cultivation, if persistently followed, will not only kill bluegrass but any other weed.

Q. How would you test garden seeds ?

A. By keeping in moist, warm cloths between dinner plates. The most accurate way is, of course, by planting the seeds in a box or flower pot.

Q. Do you prefer planting potatoes whole or cut ?

A. Whole potatoes will give a larger yield than potatoes cut to pieces, of the same weight.

Q. Do you recommend planting small potatoes?

A. Not unless there is scarcity of larger seed.

Q. What is the best method of sowing turnips

A. Turnip seeds germinate when sown on the flat, as the land does not dry out so much. They are not so easy to thin, however, as those sown in the drill.

Q. When is the proper time to prune apple trees ?

A. F. Lewis, Burford : In March, April or June.

Q. Will trees pruned in June heal as quickly as if pruned in February ?

A. No.

Q. Do you ever allow your orchard to go to sod?

A. T. A. Sheppard, Queenston : Never for more than one or two years at a time, when wood growth is too rapid.

Q. Will it do to graft winter apples on crab apple stock ?

A. While the graft will usually grow, it is not a success, as the graft seems to grow faster than the stock. They are very apt to break off.

Q. Do Tallman Sweet trees make good grafting stock ?

A. Yes, one of the best.

Q. What do you do for rot in plums ?

A. Spray trees with Bordeaux mixture about four times a season.

Q. What variety of peach do you consider most profitable ?

A. It will depend a good deal on your locality and what purpose you are trying to serve. I would say for an all-around peach, at the present time, that the ' 'Elberta" is probably the best.

Q. Would it not be better to propagate fruit trees on the spot that they will always stand, instead of in the nursery row

A. No. It would take much longer to get an orchard started, as the loss in propagation is very great, and you would lose the use of that land for two or three years; and, besides, your trees would all be different sizes, and they do not do as well as when all start at the same time and have an equal chance.

Q. Are wood ashes a good fertilizer for peaches or plums ?

A. Yes, one of the best, as they contain a good amount of potash.

Q. How much would you put around each one ?

A. About a half bushel per tree, well scattered around.

Q. What advantage do you get from high heading of peach trees ?

A. It is easier to cultivate, as you can use horsepower for the greater part of it, and besides, we get our best fruit on the higher branches.

Q. Do you have much trouble in the Niagara District with the "Yellows ?" What do you do for it ?

A. Yes, quite a bit. The axe is the only remedy, and by systematically cutting it out as fast as it shows itself, we are able to keep it in check.

Q. What are the first symptoms of "Yellows" ?

A. Premature ripening of the fruit; from a week to ten days earlier than it would naturaly ripen; also small red spots running from the surface to the pit, and the pit is usually all red.

Q. Do you ever find the same symptoms in trees affected by mice or borers ?

A. No. I have seen trees almost entirely girdled with mice and full of borers, and still would not show any of the red spots or premature ripening.

Q. If kept well cultivated, would it not do to grow a crop of beans or some other crop in the orchard ?

A. No. I do not think it pays to take a crop out of an orchard after the trees are full grown, as it takes too much moisture from the trees.

Q. What varieties of grapes do you consider most profitable ?

A. Concords and Niagaras.

Q. Does spraying have any effect on the keeping qualities of an apple ?

A. Yes. Sprayed apples will not rot nearly so much as unsprayed.

Q. Where we have so much fruit, will it pay us to bother with silos and stock ?

A. T. H. Mason, Straffordville : The great need of our fruit farms to-day is manure, and how are we going to supply it ? Commercial fertilizers are expensive and of doubtful utility, but we all know what farmyard manure is. We have now three silos (small ones), one we keep for summer use. We are now keeping more stock and keeping them better than we did before we commenced fruit raising. The fruit farmer must keep stock and supply a portion at least of his manure.

Q. What is the hardiest apple tree for Ontario ?

A. T. G. Raynor, Rosehall : The locality must determine that. Taliman Sweet is very hardy for most parts, but is not a marketable apple.

Q. What is the best way to kill bindweed ?

A. By cultivation.

Q. What trees would you grow for windbreaks and ornamental ?

A. Evergreens, nut-bearing trees, basswoods, white ash and some mulberry trees for birds, etc.

Q. Would it not be better to plant nuts in fall ?

A. Yes, that is the proper time.

Q. Mr. Nixon said he planted some walnuts and they did not grow the first year. Have you had any trouble in getting trees to grow ?

A. Mr. Dowd, Branchton : No, they mostly all live.

Mr. Clarke, Onondago : I know a man who rarely loses a tree by dipping the roots of young trees in puddle clay.

Q. When would you plant evergreens ?

A. T. G. Raynor : In May, after starting new growth.

Q. Will black currants produce well on sandy soil if very light ?

A. R. Thomson, S t. Catharines : Not so well as on a heavier loam.

Q. Will it pay to replant currants that have been growing three or four years ?

A. No. Yearling or two-year-old plants will overtake them. I would prefer setting cuttings and waiting.

Q. What is the best time to plant apple and plum trees in Algoma ?

A. I would prefer fall, or very early in the spring.

Q. What is the best time to plant apple and plum trees in Algoma ?

A. Wood ashes first; well-rotted manure next.

Q. Would you, in Algoma, recommend sowing apple seed and raising seedling trees, and then topgrafting ?

A. Yes, or send to a reliable nursery for a hardy variety, but good seedlings would be preferable to none.

Q. When would you buy your trees ?

A. In the fall, and cellar or trench them and plant in the early spring.

Q. What would you consider the best slope for an orchard?

A. A north, northeast or northwestern.

Q. How far back would you cut the last season's growth ?

A. From half to two-thirds.

Q. Would you prefer seed from hardy varieties to sow for raising apples?

A. Certainly. Northern Spies would be better than Baldwins, but I would sow Snow, Duchess, or any hardy variety.

Q. Would you cover strawberries with evergreen brush in the fall ?

A. Yes.

Q. When would you prune trees in a northern region ?

A. I would prefer doing it in June, when the sap begins to thicken.

Q. If a young tree overbears will it be injured ?

A. Yes, the fruit should be thinned.

Q. What remedy would you advise to prevent the bark splitting on apple trees ?

A. I remove the snow in early winter and allow the ground to freeze, then cover with evergreen boughs or straw as soon as snow is melting in the spring, to retain the frost. I would also take some cedar bark and wrap or coil around the trunk to keep hot March sun away. This is less likely to injure the bark of the rtee by rubbing than V-shaped boards on the southwest side of the tree.

Q. Will washing trees with strong lye to kill bark lice injure the tree or kill it ?

A. Not if used in any reasonable quantities; in fact, it is beneficial.

Q. I have sprayed apples for years with Bordeaux mixture for "scab" without results Can you suggest the cause of the failure ?

A. J. E. Orr, Fruitland : Probably the most common cause of failure in the

use of the Bordeaux mixture is that the strong solution of copper sulphate and of lime are brought together without being properly diluted. This causes a strong chemical reaction, which causes the mixture to become "curdly," and destroys the effectiveness. Many dissolve the copper sulphate in boiling water and slack the lime just before they put them in the barrel. Of course, in this case, they are both hot, and the reaction is quicker and stronger. The proper way would be to have the barrel well filled with water and then stir in the strong solutions. The mixture will then be smooth and even, without any "curdly" appearance.

Q. How much does it require to cool a storage room ?

A. It takes three feet of ice space to cool one foot of storage during the season.

Q. Would you pack ice in the house on the flat, the same as in the water ?

A. No, I would pack on edge, as it will keep better and come out easier. All cakes should be cut the same size

Q. Is new sawdust as good as old ?

A. I would prefer older cut to fresh green cut; the better the insulation.

Q. What kind of apples are best in this section (Caintown) ?

A. M. H. Powell and Mr. Hall : Snow, Scarlett, Pippins, Mann, Canada Red.

Q. What about spraying; will it kill caterpillars ?

A. Yes, if applied in time.

STRAWBERRY CULTURE.

By Arthur Peer, Freeman.

"God might have made a better berry than the strawberry, but he never did."

Through the long, weary months of winter and opening spring how often do we wish that summer was here, that we might enjoy fruits fresh from vine and tree ? As this longing grows upon us, and we count the time that must elapse before our desire is gratified, we begin to think of the strawberry that will usher in the many enjoyments that summer brings us. In city, town or country home how eagerly the market-place or strawberry patch is watched for the first appearance of this most luscious fruit. When such will contribute to the happiness of every home, who would not grow strawberries ?

Essentials to Successful Strawberry Growing. But, aside from this aesthetic view of strawberry culture, the commercial man's first question is, "Will it pay ?" Such a question involves a great many circumstances, under which varying answers would be necessary, but if certain fundamental principles are followed a more or less decided answer may be given. If the one intending to engage in this occupation is of a careless disposition (and thus apt to comply more readily with the conditions of failure, rather than those of success), and satisfied to grow forty or fifty bushels per acre of medium-sized berries with which the market is always glutted, the answer may most decidely be given : "It will not pay." On the other hand, should he be a wide-awake, eager to learn and to take advantage of every opportunity to improve his chances of success, and determined to exert himself to the utmost, to have the best crop and the best berries in the neighborhood, the chances are very much in favor of this man having at least a little spending money in his pocket, after the season's work is over.

Laying Out the Land and Planting. In locating a spot for a strawberry patch, bear in mind that the strawberry is a surface feeder, and, consequently, easily injured or killed by a surfeit of water or during severe drouth. The land should be well drained and one that has been previously planted to hoed crops, so that weeds will give as little trouble as possible. Plow the ground in the fall and again the spring, while in the meantime a liberal coat of barnyard manure should be given. After having plowed the plot, it should be thoroughly cultivated and then rolled. It is then ready for marking out, which may be done in various ways, with whatever the planter has convenient for this purpose. The rows are usually placed about 3 1-2 to 4 feet apart, and the plants 15 to 24 inches apart in the rows ,according to the thriftyness of the variety or varieties grown. The choice of varieties is often a very perplexing question, and can only be decided by actual test. Varieties that succeed well in some localities are entire failures in others. In fact, varieties will thus fluctuate on a single farm, according to the variation of the soil. If the intending grower has had no experience in selecting varieties, his only safe course is to choose those succeeding best with his neighbors, or such standard varieties as have a wide-spread reputation. Begin planting as early in the spring as possible, so as to get the benefit of the early rains, and thus give the plants a vigorous start. The plants should be well trimmed; all large or dead leaves removed, together with the tips of the roots, which will then branch out and take a firmer hold of the soil. Commence cultivation immediately after planting and continue it throughout the season, thereby keeping all weeds in check, conserving moisture in the soil, and

confining the plants to their alloted space in the rows. All blossoms should be removed the first season, and also any runners that may make their appearance before the plants are in a vigorous condition to support them.

Cover Plants in Winter. After the ground is sufficiently frozen a covering of straw or some such material is desirable, to keep the ground from freezing and thawing rapidly with every change of the weather, which would break the little rootlets and injure the plants considerably. This covering should be removed from the plants as soon as all danger of severe frost is over, and placed between the rows. Here it will conserve moisture so necessary at the fruiting season, aid in keeping the berries from being sanded, and smother out weeds that would otherwise make their appearance.

As the fruiting season draws near all necessary preparations for handling the crop will be in order, and if possible the securing of an ideal market which, at the present time, is more apt to be found in towns and villages, or in a good home market, as the city markets are frequently glutted and fruit sent there often barely pays expenses.

Plant Every Year. To be on the safe side, start new plantations every year, although in many cases it may be advisable to retain a patch that has already fruited, over for another season. When this is done the odd rows should be narrowed up to about six inches, and this strip thoroughly cleaned out immediately after picking ceases. Carefully cultivate the space between the rows, so as to get the soil in good shape to receive the young plants that the narrow strip will soon produce.

Enemies. In common with all other domestic fruits the strawberry has its insect and fungus enemies. Among the more destructive of the former are the white grubs, a name given to the larval stages of the different species of the June beetles. As these work no apparent injury until the patch is two years old, it is advisable where injury is liable to occur to plow under the patch as soon as the first crop is harvested. Other insect pests are the Strawberry Sawfly, or slug, and the Strawberry Leaf Roller. These may be controlled to a certain extent by spraying. Rust, or Strawberry Leaf Blight, as it is commonly called, is perhaps the most destructive enemy to strawberry culture. This disease, if not checked, soon spreads all over the leaves and attacks the fruit stems, often completely girdling them, causing them to shrivel up, and the berries are consequently useless. Fifty per cent. of the crop is often lost from this cause. The most satisfactory remedy for this evil is spraying with the Bordeaux mixture, which should be applied in July or August of the previous year and before and after blossoming of the fruiting season.

During the past few years strawberry culture has made rapid strides. New varieties are being introduced by the wholesale, many of them splendid acquisitions to our already large supply, but the perfect berry has not yet been reached. Many of our best sorts are chance seedlings, snatched from oblivion by some party seeking for a better berry than he then possessed. Then why should not all of us be striving to obtain a more perfect berry and, although we may not reach the high ideal which we seek, we will nevertheless improve to such an extent that our energies will not have been spent in vain.

CAUSE OF UNPRODUCTIVE ORCHARDS.

The University of Illinois Experiment Station has done considerable work on orchard cultivation and management. In bulletin 59 the following are given as some of the reasons why many orchards in the State are unproductive, and which will apply in many cases to Ontario orchards :—

First—Too many growers are expecting a crop to be given them without putting forth any efforts themselves after the trees have been set. The apple tree requires the same careful attention as do other farm crops.

Second—Lack of moisture is a common cause of failure to the apple grower in that State, especially in southern Illinois. This is because grass and other crops are allowed to compete with the trees for the moisture supplied by rains. Water is just as essential to the apple tree on a hot summer's day as it is to the laborer in the harvest field.

Third—Injuries resulting from attacks of insects or of fungous diseases are a very common cause of failure. These depredators will probably always consider that they have as much right to the products of the farm as does the farmer himself. For this reason he must get his artillery and ammunition and fight the enemy.

Fourth—Lack of fertility is a very common cause of failure in southern, western and some sections of northern Illinois. The apple orchard cannot produce a profitable crop unless provided with an ample suply of nitrogen, potash and phosphoric acid.

Fifth—Some orchards in this State which have come to the notice of this station are unprofitable because of improper pruning or lack of pruning. Light and air are essential for the development and ripening of the apple.

Sixth—Many varieties of apple trees have been planted without any thought given to their adaptability to the particular soil or climate. Loss in apple growing is often wholly a matter of varieties.

Seventh—Trees propagated from unproductive stock have been responsible for many failures. Scions should be selected from bearing trees or those which have demonstrated their ability for productiveness.

Eighth—Sterility as a result of planting an orchard of only one variety is a common cause of failure, in part at least. Cross fertilization is desirable with all fruits.

Ninth—Excessive climatic conditions, as the February freeze of 1899, or the killing of the blossom by frost, are often times responsible for unproductiveness.

LOCATING AN ORCHARD.

From Farmers' Bulletin No. 113, U. S. Dept. of Agr.

The selection of an orchard site is not governed by any arbitrary rule. All farms do not afford the best soils and exposures for orchards. The owners of such as do not are unfortunate, yet they should not feel discouraged to the extent of not planting trees and caring for them afterwards.

Exposure. Some kinds of soils and surface presentations are preferable to others, as they are better adapted to this fruit and require less expensive preparation and in the after care and treatment of the orchard. The most intelligent and experienced orchardists often differ as to the best location and exposure of an orchard, some preferring a northern slope, others an eastern, and yet others recommend a southern or even a western as best. We think, however, that the advantages preponderate in favor of a gentle eastern or northeastern slope, as orchards located on such sites suffer less in both soil and tree from the effects of heat and drought. An orchard with such an exposure will maintain its vigor and longevity better than if inclined to the west or southwest. This is especially true in States south of the New England group, where the summers are long, hot and dry, and where it is probable that the greatest injury to trees results from these causes. But, as stated above, all farms do not afford these most favorable sites, especially near the home, which is the most desirable location for the family orchard. Thus the planter will often be forced to forego such a location and take his chances where the natural conditions are not so favorable. If possible, the site should be elevated above its immediate surroundings, thus giving a free circulation of air; and it will also be of great aid in guarding against late spring frosts, so fatal to young fruit at the blooming season.

Soils. Apple trees will thrive and do well on almost any soil well prepared, but the different kinds of soil may require different treatment and after care.

Loamy Soil. A loamy soil is naturally rich in plant food, hence will need little, if any, manuring in its preparation. But it should be deeply stirred and thoroughly broken up by subsoiling. This loamy soil is what may be termed free soil, as it seldom becomes compacted, even by abusive treatment.

Clay Soil. A clay soil is the most difficult to prepare, and often requires manuring as well as thorough plowing, replowing and sub-soiling. It should be also frequently stirred during the summer months, and especially as soon after each rainfall as is practical, to prevent it from baking and becoming compacted. This becomes even more important in seasons of long and continued drought.

Sandy Soil. Sandy soils are generally lacking in necessary plant food. They also have the objection of losing such fertilizers as may be added, by the leaching of the rainfall.

Effects of Several Soils. The wood growth on loamy soils will be strong and vigorous, but may not be sufficiently mature to withstand the freezing of the more rigorous winters. Clay lands are not so apt to produce such vigorous growth, and orchard trees on such lands will be hardier as to winter killing than on most other soils. With a free subsoil underlying it, a loamy clay soil will probably yield the best results, especially if it be well prepared by thorough culture and subsoiling before planting the trees. Timber lands or lands on which forests have formerly grown, if having the proper exposure and drainage, are preferable for orchad sites. Such lands contain all the elements of plant food necessary to insure a good and sufficient wood growth and fruitfulness. Fruit grown on such lands will rank first class in size, quantity and appearance.

Drainage. All orchard lands should be thoroughly surface, drained and sub-drained. No orchard can endure for a great length of time with stagnant water either on the

surface or within the soil. All surplus water from excessive rainfall or from other causes should be promptly removed by either surface or sub-drainage.

If the natural formation of the land does not afford such prompt drainage it must be provided artificially. Surface ditches or furrows between the rows of trees may afford temporary drainage, but they are objectionable on other accounts that will be apparent; for an orchard thus drained will be bad to get over in its necessary care and in gathering and handling the fruit. Subdrainage is far better on these accounts; besides, it is much more thorough, especialy if supplied with well-laid tile.

A thorough breaking up of the subsoil will afford temporary drainage in a stiff clay soil, but in a few years the soil will again become compacted, when it will require restirring. But in all cases the planter should be the judge of the special requirements of his soil and location as to drainage, etc.

Use of Fertilizers and of Clover. The soil constituting the proposed orchard site should be carefully studied, and if found to be lacking in essention elements of fertility naturally to maintain a fairly vigorous wood growth, fertilizers should be added before plowing, that they may become thoroughly incorporated with the soil in preparing the land for planting.

Barnyard Manure and Wood Ashes. Scientists and practical orchardists are generally agreed on the great value of well-rotted barnyard manure as the best for an apple orchard. It not only supplies humus, but it contains a large per cent. of other necessary nutritive elements for maintaining health, vigor and fruitfulness of tree and development of qualities for a fine fruit product. But as the stock of this sort of manure is not always sufficient for the general demand, other agents have to be resorted to; and next in value and in a concentrated form are unleached wood ashes, which will supply to a great extent the necessary element of plant growth. It is maintained by some authorities that 1 ton of unleached wood ashes contains as much plant nutriment as 5 tons of ordinary barn manure, and whenever obtainable, ashes should be used in preference to any other fertilizer.

Manufactured Fertilizers. There are many kinds of manufactured fertilizers, some of which are valuable for special soils, but to determine just which brand to use is a difficult question to decide without knowing what elements are lacking in the soil. The three elements most commonly deficient in soil are nitrogen, potash and phosphoric acid, and chemical fertilizers that contain the largest per cent. of these substances will be the most economical and beneficial.

A fertilizer containing 1½ to 2 per cent. of nitrogen, 1 to 9 per cent. of available phosphoric acid, 10 to 12 per cent. of potash, will give excellent results when applied to orchard land in quantity ranging from 400 to 600 pounds per acre.

Growing of Clovers. Western prairie lands are generally sufficiently fertile for an orchard growth and need no enriching until the trees begin to show signs of weakness in vigor from crop bearing, and, even then, may be invigorated by use of crops of red or crimson clover grown among the trees, allowing the crop to fall and decay upon the ground each year. By this treatment a large amount of decaying vegetable matter will accumulate upon the land, rich in plant food and forming a moist protection from hot summer sun and deep freezing during winter, a condition conducive to health and vigor in trees. All lands lacking in humus can have this element restored to a great extent by such treatment, and orchards which have been treated thus with red clover maintain greater longevity, fruitfulness and greater excellence in fruit product, besides such treatment dispenses with the costly necessity of using special fertilizers.

Sign of Need of Manure and Cultivation. As to the indications when a bearing orchard needs stimulating, the eminent pomologist, Dr. Warder, once said :—"When the growth of the terminal branches fail to make an annual extension of at least 1 foot in length, the trees should be stimulated by manuring the land and giving it thorough cultivation."

Preparing the Land for Planting. The general work of preparing the land for planting an orchard consists in deep tilth, and the more thoroughly it is done and more certain is success. The preparation had best be done late in the fall, when it will be ready for early spring planting or for fall planting, if preferred. Many successful orchardists, especially in the Western States, prepare the land by opening with a heavy plow a furrow where the rows of trees are to be set and then back furrowing the space between them, making a land section with a tree row in the centre.

This method affords a deeper tilth under the trees, and, at the same time, surface drainage into the opening and finishing furrow midway between the rows, which will receive and, if properly graded, carry off any surplus water which may accumulate from heavy rainfalls.

Distances for Planting. A decision as to the proper distance apart to set trees varies with different plantings. Some plant 16 by 32 feet apart—that is, the rows one way are 32 feet apart. The object of this method is to obtain a crop from the trees until they begin to interfere with each other, when every alternate tree in the row is cut out, leaving the trees in the entire orchard at a distance of 32 feet each way. The trees to be cut out should be early-bearing, short-lived varieties. This system has the advantage of utilizing the land between the rows, which becomes a source of great fruit product before the thinning out becomes necessary.

Other planters adopt a distance between trees of 20, 24 and 30 feet apart each way, claiming that by the time the trees interfere with each other they will have finished their growth and the orchard will begin to decline. But it is generally conceded that 32 to 40 feet is the preferred standard distance. If the distance of 40 feet way is adopted it will afford ample space between the rows for growing any crop which requires cultivation, such as corn, beans, potatoes, etc. Such cultivation is highly important and necessary for the maintenance of moisture in the soil and to the health and vigor of the trees. This distance will afford free circulation of air and abundance of sunlight, both of which are essential to the growing of well-developed and highly-colored fruit. As stated elsewhere, small grain should never be grown among fruit trees, especially when the orchard is young.

Season for Planting. This question is governed somewhat by latitudes. In southern latitudes late fall or the early part of the winter may be safe for planting. But in most of the States and Canada early spring is considered the best time. Fall planting has the objection against it is that the roots of a tree do not take hold of the ground sufficiently to supply enough moisture to maintain a healthy, active circulation of the sap which is required to prevent shrivelling of the branches during winter's extreme cold and exhaustive evaporation from drying winds.

Selection of Trees. This is a very important part of orcharding, for upon care and judgment in the selection of trees depend largely future profits of the investment. Strong, stocky and vigorous one or two-year-old trees, called whips by nurserymen, having well-developed root sytems, are preferable. Trees of this type and age are more satisfactory and profitable in time and suffer less in transplanting, cost less, and are much more easily handled than older ones.

In this connection we would suggest the advisability of purchasing trees for planting from the nearest responsible nurseryman. The local nurseryman, if perfectly familiar with his business, will understand the needs and demands of his home customers and should grow the varieties best suited to his section of country. If honest he should feel himself morally, if not legally, responsible for the correctness of his nomenclature. By securing trees at the near-by nursery all danger from damage by long transit and injurious effects of sunshine and frosts are avoided ; besides, if the farmer makes his purchase direct from the nurseryman, he will save expense of middleman or agent, and is less liable to the mistakes and injury that may occur through repeated handling.

COVER CROPS FOR ORCHARDS.

By W. T. Macoun, Experimental Farm, Ottawa.

The best time to sow a cover crop is about the middle of July. The growth of the fruit trees is then well advanced, and the fruit will develop. The seed should be sown, if possible, when the ground is moist, as at that time of year it will germinate quickly if there is moisture. At the Central Experiment Farm it has been found that common red clover or mammoth red clover, sown broadcast, at the rate of 12 pounds per acre, gives the best results, although on light soil, lucerne, sown at the rate of 15 pounds per acre, will grow taller by autumn and hold the snow better. After the seed is sown the land should be rolled, as this will bring the moisture to the surface and about the seed and hasten germination. It is important to get growth started in good time, as there is often protracted droughs in July and August which prevents germination and spoils the prospect for a good cover crop. Buckwheat and rye also make good cover crops, but the advantage of using clover is that they are what are known as leguminous plants, and these assimilate nitrogen from the air through the nodules on their roots: thus, by using this class of plants, nitrogen, the most expensive plant food, may be had for the price of the seed. In the spring the clover may be let grow until there is a good crop to plow under, but in those districts where drought is likely to occur in the summer it is much better to plow the land as soon as it can be worked, without waiting for any new growth.

TREE PLANTING.

By T. G. Raynor, Rosehall.

In nearly every portion of the older settled parts of Ontario there has been too much of the original forests removed for the benefit of our country in very many ways. Is it not time a halt was called in this matter? Before tree planting has to be resorted to as a matter of necessity, would it not be wise to consider the preserving of what is left?

The importance of this matter is coming home to us with greater force every year. Our conditions are approaching more and more the conditions of the open, treeless prairies, where the storms may frolic at their own sweet will. The violence of heavy wind storms is being felt much more than formerly. I have only to refer to the September gale, which visited us last fall from end to end of the province, and which was claimed to be the tailend of the Texas storm. It shook the apple orchards to an alarming extent. Everyone, too, is remarking on the increasing violence of the electrical storms, which pass our way every summer. Many of our springs, which used to run the whole year, now dry up in the early summer. Many rivers and creeks are decreasing in their summer volume of water, and very many more wells are going dry from year t o year.

In asking ourselves what is the cause for these conditions, there can be but one solution of the problem, it seems to me, and that is emphatically the results of our over-clearing.

If this be true, and I believe it is, should we not be aroused to the great importance of the question?

It is generally remarked that when woods were plentiful the rainfall was more evenly distributed than it is now. It came in copious showers during the growing season, when evaporation was the greatest, mostly from the leaves of forest trees. It was rare in those days to have a poor crop of any kind.

But all the evils of over-clearing have not yet been estimated. Comparatively little is known to what extent the insectivorous birds have befriended us in destroying the many injurious insects which prey upon our crops. The rapid destruction of our forests has driven many kinds of insects out upon the field crops, and at the same time removed the favorable resting-places for our birds.

While in many places the destruction of our trees has been wanton, yet in many districts there are enough left worth preserving, and I believe the time is ripe for replanting as well. Forestry experts claim that twenty acres of every one hundred acres should be left with trees. I am under the impression that if belts of woodland were left along our streams and around our lakes, and if the barren hillsides, unsuitable for cultivation, were replanted along with what is being replanted to orchard, that ten acres for every one hundred acres would be sufficient for the best climatic conditions. So long as farmers allow their stock to forage in their wood lots, so long will wanton destruction of those wood lots ensue. It is quite noticeable that grass soon follows stock roaming in the wood lot, and it is only a question of time when more or less sod gets in. Then it is that the trees begin to die at the top, which is soon followed by their removal and a general clearing of the bush land, adding to the arable part of the farm.

Wood Lots Should be Free From Taxation. It has been recommended that wood lots should be exempt from taxation, where the owner would guarantee to keep his stock out. I believe this scheme could be worked through the municipal machinery with little or no cost to the country. Some such encouragement must surely be gi ven if any attempt at preservation be made. If cattle were kept out of the wood lot the second growth would soon become rank enough to smother out the grass and restore primitive conditions, to some extent at least. The leaves falling would form a mulch and the snow drifting in would accumulate in large quantities, which would supply the needed moisture. We would not see this snow going with such a rush as the snow outside under the direct rays of the sun and exposed to the warm winds. More of the water formed from the melting snow in spring would soak into the ground through the gradual melting, and many a spring freshet, carrying destruction of life and property in its track, might be averted.

A Little is Being Done. I am aware that some progress is being made in tree planting. The impetus of apple culture is doing a good deal. The setting apart of Arbor Day to be observed in our schools is exerting some influence, and a few who believe in beautifying their homes and farms by planting ornamental and shade trees, thus adding very materially to the value of their farms, is an educational force.

These influences are too slow to keep pace with the destruction which is continually going on, therefore, I maintain that this question is of sufficient importance to be forced upon us to such an extent that we shall see the benefit of preserving what we already

have, and of making some amends for the mistakes made by our ancestors in over-clearing.

If the prairie farmer finds it so much to his advantage to have even a few willows and poplars for wind breaks, surely where trees grow so well as they do in Ontario there is no excuse for the present generation not deriving all the beneficial results of plenty of trees.

If every farmer would plant some evergreens and other kinds of trees to the north and west of his buildings and a shelter belt on the same sides of his farm, the country, as the individual, I am sure, would enjoy the benefit. In fact, what better legacy could a man leave posterity than a number of silent monuments in the shape of trees.

I notice on many farms along the fences, that if a little encouragement were given to the trees already there, by protecting them from stock and field mice, that it would not be long before considerable of a wind break would be formed. Where shelter belts are planted along farms the outside row might be evergreens, which make good nurses. Then a row of nut-bearing and fruit-bearing trees, the latter for birds, to be followed by both ornamental and useful trees in a third row, such as maples, hard and soft, elms, basswood and ash.

I trust that these few ideas may be taken up by others, which may result in a general crusade in favor of more tree preservation and tree planting.

COLD STORAGE AND THE TRANSPORTATION AND MARKETING OF OUR PERISHABLE PRODUCTS.

By G. C. Caston, Craighurst.

The question of preserving and marketing our perishable products, in good condition is one that has for the last few years aroused considerable interest. The interest in this subject would be still greater if we knew exactly how many thousands of dollars were lost to the country every year, through deterioration in the quality of these products while in transit, and the large quantity that goes to waste and is a total loss for lack of the proper facilities for their transportation. Besides, there is the question of preservation of many of these products in a fresh and wholesome condition for home use. With our changed conditions of agriculture, there is a large and constantly increasing proportion of our farm products that may be classed as perishable. Fresh meat, dressed poultry, butter, eggs and we may say all our varieties of fruit, with the exception of winter apples. This is why the allied questions of cold storage and transportation are of such live importance in this country to-day.

The Hanrahan Cold Storage System. Cold storage has been for a number of years in the experimental stage. A number of systems have been tried, with varying degrees of success. But the one known as the Hanrahan system, seems to commend itself as at once the cheapest, simplest and withal the most effective yet introduced. It is with that system I propose to deal in this article. And just here the question may be asked, "What do you know about it?" It is comparatively a new question, "What experience have you had in it?' And the answer would be, "personally, very little." But we are pretty safe in judging of a system by the results attained, and when we find that by this system such perishable products as ripe peaches, pears and grapes were shipped from the southern part of this Province, and laid down in the British market in perfect condition, then it must have in it the elements of success.

A Low Temperature and Constant Circulation of Pure Air. The fundamental principles of this system are, first, a low temperature and second and equally important, a constant circulation of dry, pure air through the products. All decay and deterioration in perishable products is caused by germs. The air is full of them. The conditions under which they propagate most rapidly is the presence of warmth and moisture. They are known as moulds, yeasts, bacteria, etc., and there is an endless variety of them. But when the temperature is reduced to within a few degrees of the freezing point they become dormant, and decay is arrested. But it is in the second point, viz., circulation of a current of cold, dry pure air, that this system seems to excel.

A Chain of Cold Storage. For the successful transport of perishable products a chain of cold storage is required. First the house where the products can be stored must be properly cooled and kept at a low temperature until ready to ship. Then we must have the refrigerator car and the Hanrahan car is as great an improvement on the ordinary refrigerator car, as the modern binder is on the old reaper. Then, if the products have to cross the water there must be proper cold storage apartments on board the vessel. And to complete the chain there should be cold storage houses to place them in at the end of the journey. Fruit decays rapidly in the presence of warmth and moisture.

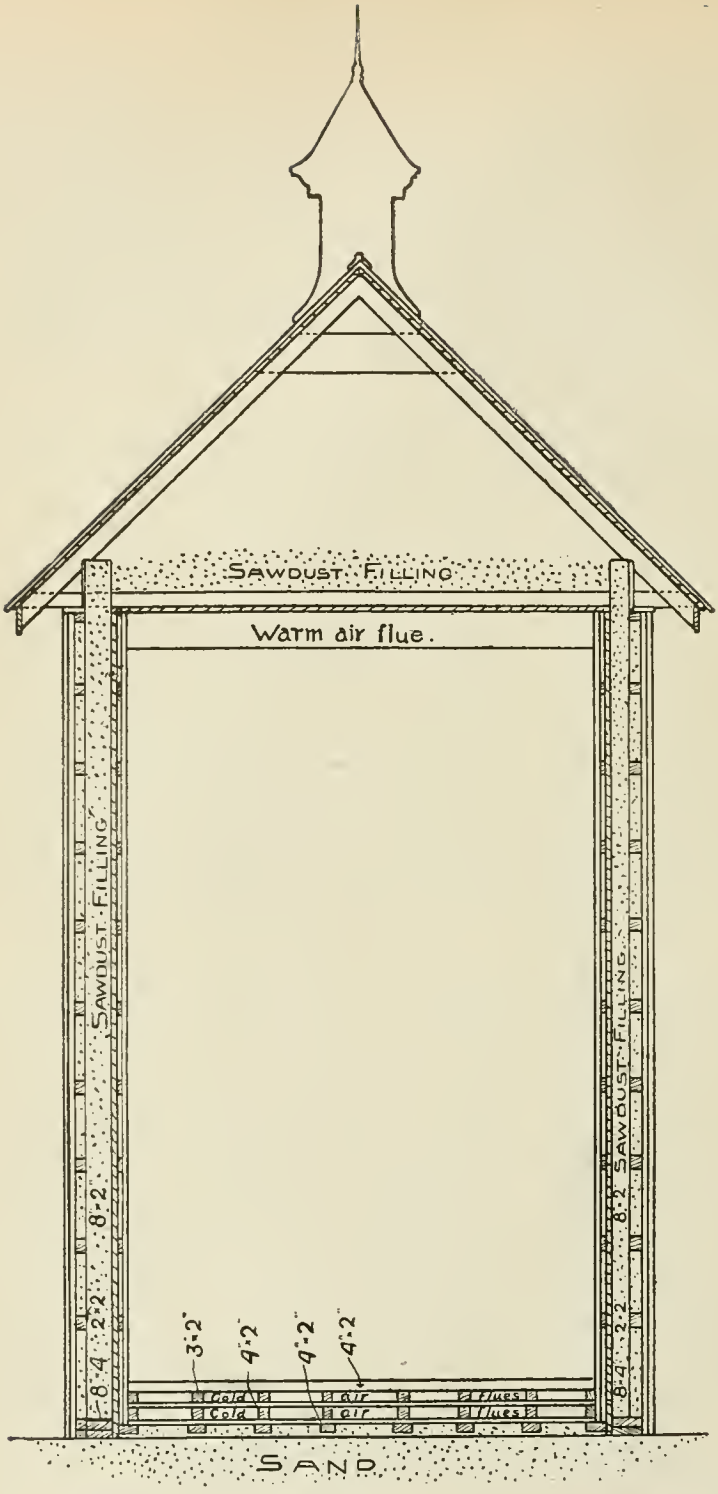
There is a point just here that is important. The question is often asked, "Why is it that products, more especially fruit, that have been carried in cold storage, spoil rapidly when brought into a warm atmosphere ?" Well, the reason is plain. Warm air will condense and precipitate moisture rapidly when it comes in contact with a cool surface, hence the product brought from a cold chamber suddenly into the warm air is soon covered with moisture, and then you have the very conditions under which the germs of decay operate most rapidly, viz., the presence of warmth and moisture. The shipment of produce in cold storage has been often criticized owing to this fact, by people who did not understand the cause. This points to the desirability of having proper places at the market end of the route to place the goods in until sold. But above all that no product should be suddenly removed from the cold chamber into a warm atmosphere, but excluded as far as possible from the air, until it is gradually raised to the temperature of the store room where it is to be placed for sale. If this fact is properly understood and acted upon it will obviate the difficulty.

Illustrations Explained. Fig. 1 is a sectional view of the Hanrahan cold storage house, and it can be built on a larger or smaller scale, according to requirements. Fig. 2 is a side view. Fig. 3 shows ground plan of ice chamber and refrigerator room, and Fig. 4 shows back view of building, showing doors through which ice is put in, the top one in gable end, opening into attic for putting in sawdust. The ice chamber, when filled to the top, is perfectly insulated, as will be seen from the construction of the walls, there being really four walls. The centre space is filled with sawdust, and then a dead air space on each side, between the inside lining and outside covering. The walls of the refrigerator room are constructed in the same manner, while the top of both is covered deeply with sawdust in the attics. Thus the ice is as well insulated from the outside air as it would be when buried in sawdust in the ordinary ice house. The refrigerator has closely-fitting double doors for entrance, with an air space between, and a small window on each side, with four sashes in each, giving three dead air spaces between the sashes in each window. To secure perfect insulation at the bottom the foundation is laid in dry sand. The ice chamber and refrigerator room have slatted floors, under which there is a cold air flue running from under the ice, through which the cold air flows and comes up through the products stored in refrigerator room. As the air gets warmer it rises to top of room and passes up through the warm air flue as indicated by the arrows, and passes into the ice chamber. It is there cooled, as it circulates through the ice again. Any effluvia or gases given off by the products are absorbed by the ice. The moisture of the air is also absorbed and carried off by the trapped drain, at the bottom, and the air flows into the refrigerator room rid of the moisture, rid of the gases, and the current is cold, dry and pure. Thus the necessary conditions are present for the preservation for a long period of perishable products.

Cost of Building. The cost of one of these houses with a capacity of about a carload of products would vary according to price of lumber in a locality, but would be somewere about $200 to $250. The lumber must he good and sound and a large part of it dressed. The building must be carefully constructed, and all joints and doors must be made tight. One of these buildings might be jointly owned by a number of farmers, and in that case should be located on the nearest railway.

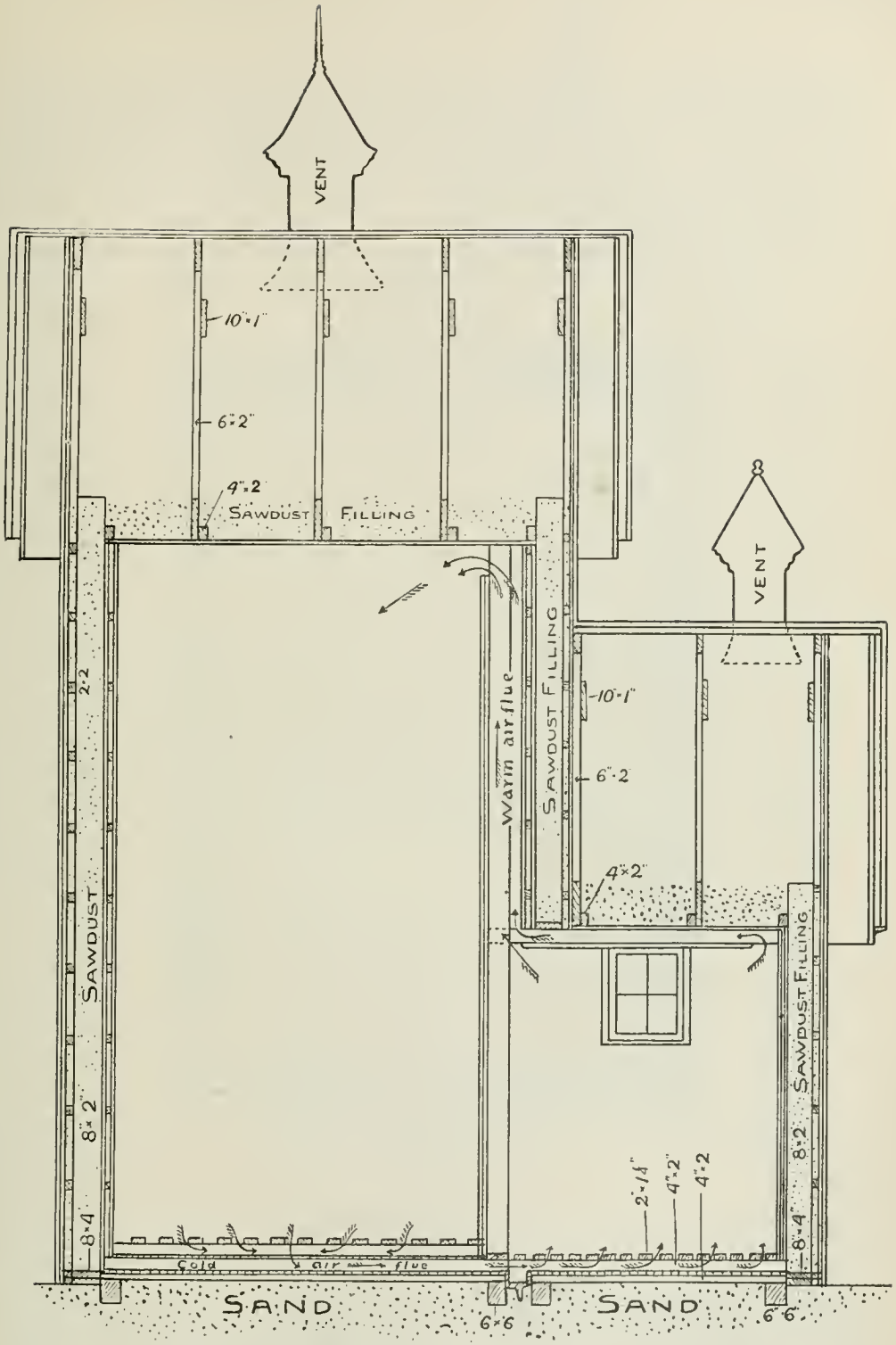
Government Aid. To encourage the co-operative shipping and marketing of perishable products by farmers the Legislature has appropriated a sum of money for the purpose. A number of farmers may form a company, simply by filing a declaration with the Registrar of the county and the payment of a small fee. A very simple and inexpensive proceedure indeed, and they become a joint stock company for cold storage purposes. The amount of bonus such a company would receive would be one-fifth of the cost of the building, up to the limit of $500, which is the maximum amount of bonus that will be paid. The conditions attached to the bonus are that the Department holds a lien on the building for five years to ensure that it is used for cold storage and for no other purpose, and that the buildings so bonused shall be not less than five miles apart. The company will make their own regulations for the management of the institution.

The Refrigerator Car. The next link in the chain is the refrigerator car, and in the Hanrahan car the same system is used as in the cold storage house. In the ordinary refrigerator car the ice boxes are in each end and there is no provision for the circulation of air. In the Hanrahan car the ice box is in the centre, with the cargo stored on both sides of it. As the air is warmed from the heat given off by the cargo, it rises and passes through the warm air flue to the ice box, where it immediately becomes cooled, passes down through the ice and flows through the cold air flue, and up through the slatted floor of car, cold and dry. Thus as the car proceeds on its journey the air is circulating round in each end of the car, down through the ice and out and up through the cargo like two hoops slowly revolving in oposite directions.



Section on Line A.A.

Fig. 1.

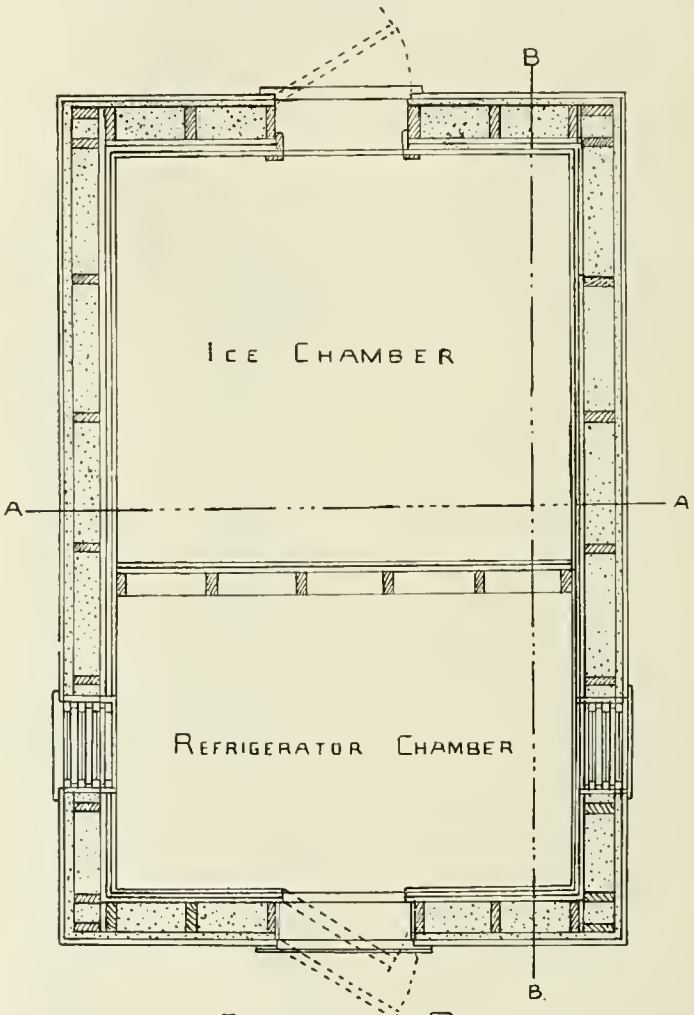


SECTION ON LINE B. B

FIG. 2.

It Would Save Millions of Dollars. With these cold storage houses at convenient centres and reasonable rates of transportation and the proper conditions furnished by the transportation companies while in transit, there could be no doubt millions of dollars added to the wealth of the country every year. It is a great pity to see anything that is fit for food going to waste, when at the same time somewhere in the world, perhaps in our own Dominion, there are lots of people who would be glad to get this very article and pay a good price for it. All our agriculture products have cost labor to produce them and nothing should be wasted.

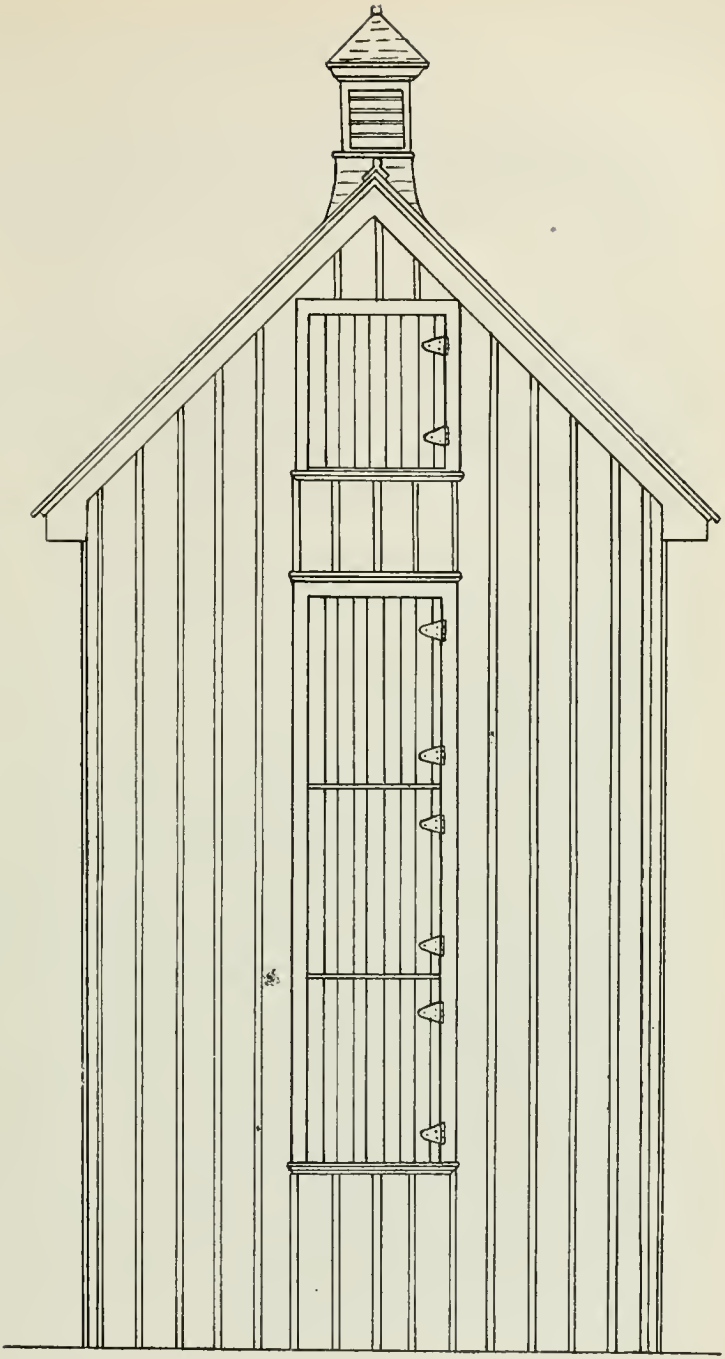
Besides, there is a vast amount involved in the carrying of products to market in perfect condition. Take for instance two packages of fruit of the same quality exactly



— Ground Plan —

— Fig. 3.

alike. The one is carried in a warm, close box car the other has been first placed in cold storage rooms and thoroughly cooled before starting, and is then carried to its destination in a refrigerator car such as I have been describing. The two packages are put on the market, one is in fresh, perfect condition, while the other shows signs of decay. The first is sold for the top price, while the other is sold for whatever it will bring, perhaps less than half the price obtained for the first. Yet these two packages of fruit cost the same labor to produce, and they were each worth the same money when put up. The same will apply to all dairy products, eggs, dressed poultry and every article of a perishable nature that is produced on a farm.



— REAR ELEVATION —

— FIG 4 —

SCALE 1 INCH — 4 FEET

While this subject of cold storage is a comparatively new one, and we cannot speak of it to any great extent from the standpoint of practical experience, yet enough has been accomplished to show that it is all right; that there is money in it for the farmers of this country, and the sooner they become familiar with it the better. It is a live quesion to-day, and it may be the means of adding very largely to the wealth of the country.

CONSTRUCTION OF AN ICE-HOUSE.

By Robert Thompson, St. Catharines.

A few years ago I had the task placed in my hands of constructing an ice-house for the storing of ice to supply the refrigerator fruit cars leaving St. Catharines Station, and in the erection of the same a difficulty was encountered, a difficulty which is increasing over our Province, viz., the scarcity of sawdust, and which cost us $2 per load, delivered. A year ago I had to overhaul my own ice-house, and, after the experience I had had, and from what I could learn from ice-men who have adopted the improved methods of construction, I concluded to build an ice-house for myself on the following plan. It may appear a little expensive, but when I take into consideration the cost of sawdust, and the fact that I had to draw the ice three miles and pay twenty-five cents per load for it, I could not afford to draw the ice home and have it waste to any extent.

I had learned that there were two or three weak points in ice-house construction—the first was a poor foundation and lack of drainage; the second the roof, on which the sun generates such intense heat that the inside of the house is more like an oven than a place for keeping ice. I desired a house that would hold over 40 tons of ice, and built on the following plan. I will give a few general directions for others who are located differently. While little scope is usually given in the selection of a site, there are certain precautions to be taken in order to secure a good bed of ice.

If the site chosen be on a little rise above the adjacent ground level, surface drainage will give no trouble; otherwise provision for it, as well as the water from the melting ice, must be made. For preparation for the foundation of the house, which can be placed on stone or cement walls, or on cedar posts set in the ground two feet at least, excavate at least one foot below sills, and fill with cobble stones or very coarse gravel the whole of the inside between sills, smoothing off the surface with fine gravel or cinders. If the digging shows a clay soil, a drain should be put in to carry off surplus moisture, carrying drain well under the gravel. Scantlings can be bedded in the fine gravel on which to place a floor of cheap lumber, placed one inch apart to permit the water to pass through readily.

It takes on an average from 40 to 45 cubic feet to hold a ton of ice, consequently a building 12 x 16 feet by 12 feet high would hold about 45 tons of ice well packed. I used 3 x 12 sound pine plank for sills, and for uprights 2-6 scantling 12 feet long, placed two feet apart, at each corner putting in an extra piece to catch lining on the inside. On the top I spiked 2 x 6 scantling doubled for plates. On the outside of house I nailed sheeting of common lumber, on which I tacked a double thickness of building paper, then strips 1 x 2 x 12 feet long. Over this a double thickness of building paper and finished with matched siding. This gives a hollow space of dead air of one inch to prevent heat of the sun penetrating to inside lining, care being used to see that the space is well cut off at top and bottom. On the inside I nailed sheeting, filling the six-inch space with cinders, shavings or sawdust, as is most convenient (I used cinders); over this sheeting I nailed a double thickness of paper, on which was nailed ½-inch strips again, and on these, sheeting, thus making two hollow spaces of dead air one inch each and one space of six inches filled, six thicknesses of building paper, three of sheeting and one of good siding.

For the roof I used 2 x 4 for rafters, lining the under side and filling between the rafters with dry shavings; under the shingles I placed two thicknesses of building paper, placing a ventilator in the centre of the roof, made so that it can be closed inside if desirable. The door should be made in two halves, and a door in the gable over the plate to put in and take out the ice for two top layers. The gables should be built the same as the walls. If the outside of the building is painted white it will help to keep the building cool. At the time of writing (July 22) there has been no waste of ice around the outer edge. I believe I have secured a good house at the cost of $65 and my own time in building. Any farmer should be able to do this work himself in slack times.

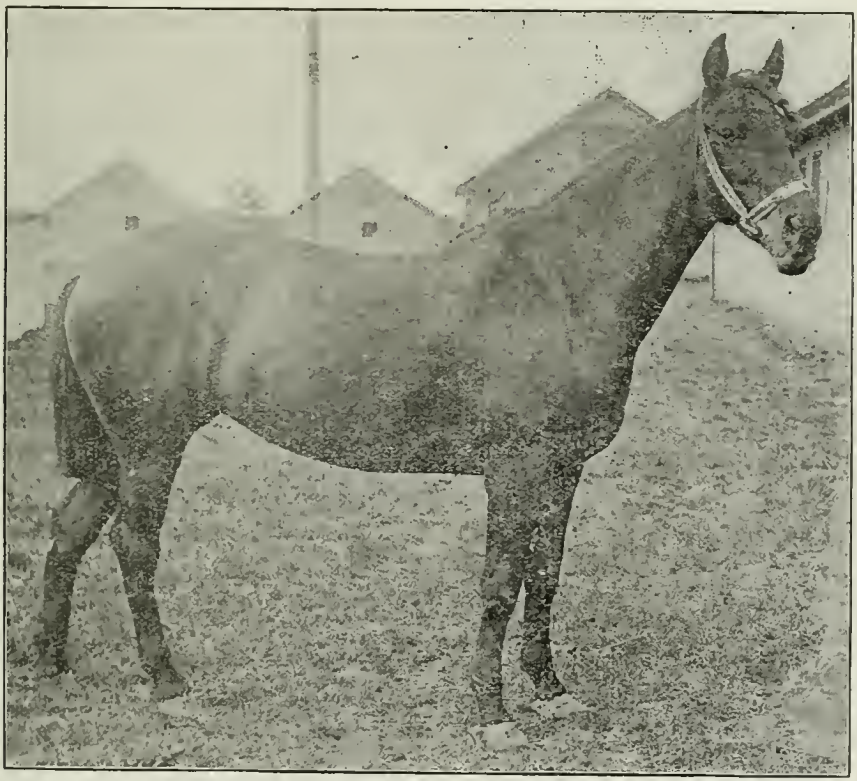
In filling the house I placed the ice on its edge, placing every alternate layer crossways Ice will keep better and come out easier packed this way. Opposite the doors I laid short pieces of boards and filled the door space with shavings. When the house was filled I placed two feet of straw over the ice, tramping it well. Marsh hay would answer the purpose better. We are using the hay and straw for our cold storage house, and all of the large ice-houses are using the same. I can keep my ice through the summer with the loss of only a ton of ice.

LIVE STOCK.

CANADIAN HORSES IN THE AFRICAN WAR.

By Lieut. John McCrae, R. C. A.

It is of the utmost importance that at this time Canada takes care to make use of the excellent impression her native bred horses have made upon the authorities of the British Army during the war, to the end that a regular market may be established and that the Imperial Government may be induced to purchase horses permanently from us. Upon the western horses which were taken out by the Royal Canadian Dragoons and the Canadian Mounted Rifles, I am not qualified to speak with any degree of certain knowledge; other evidence will doubtless be forthcoming upon the excellent qualities that these horses showed; but I purpose to deal entirely with the Ontario-bred horse, which was taken out by the Royal Canadian Artillery, and which proved to be so well adapted to the work and hardship of campaigning. The horses of the Battery in which I had the honor to be, will serve as a very fair example of the horses of the Brigade Division



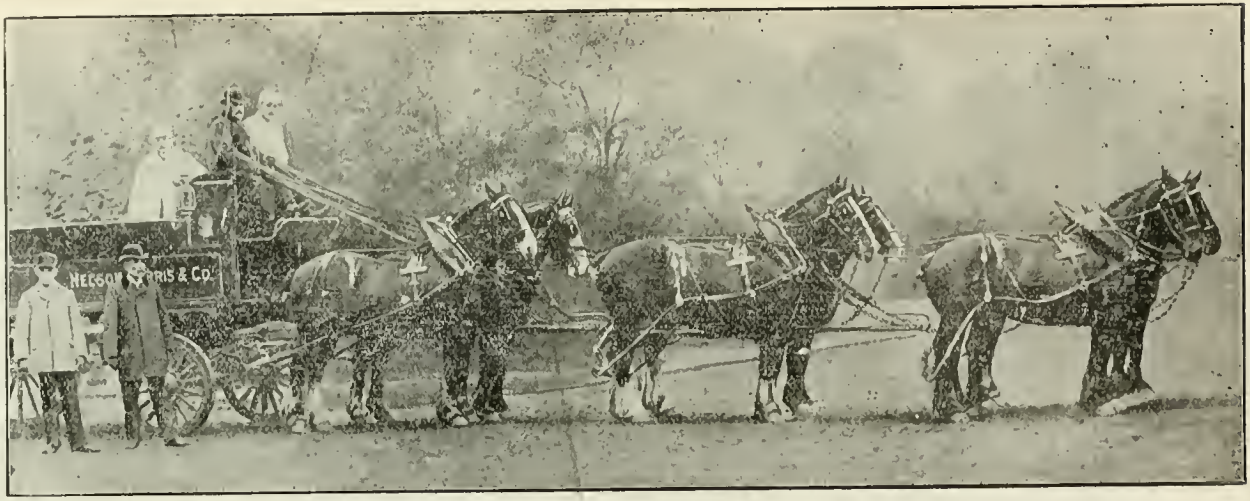
Of the Cavalry Class. A Good Kind.

which went through the war. This Battery (D) was mobilized at Ottawa in January, 1900, the horses being brought in from the country surrounding London, Guelph, Port Hope and Ottawa, the majority from the last-named vicinity. One hundred and thirty-seven horses per Battery were purchased, the limit of price being $150, and this price was paid in only a few instances. The average price was probably between $120 and $140. The type of horse selected was the ordinary general purpose farm horse, six to eight years' old, 15.3 to 16.1 hands in height, and weighing 1,100 to 1,400 pounds. A rather blocky horse was considered desirable.

The Ocean Journey. These horses were brought to Ottawa and stabled there for a couple of weeks, after which they were sent in comfortable cars to Halifax. From zero

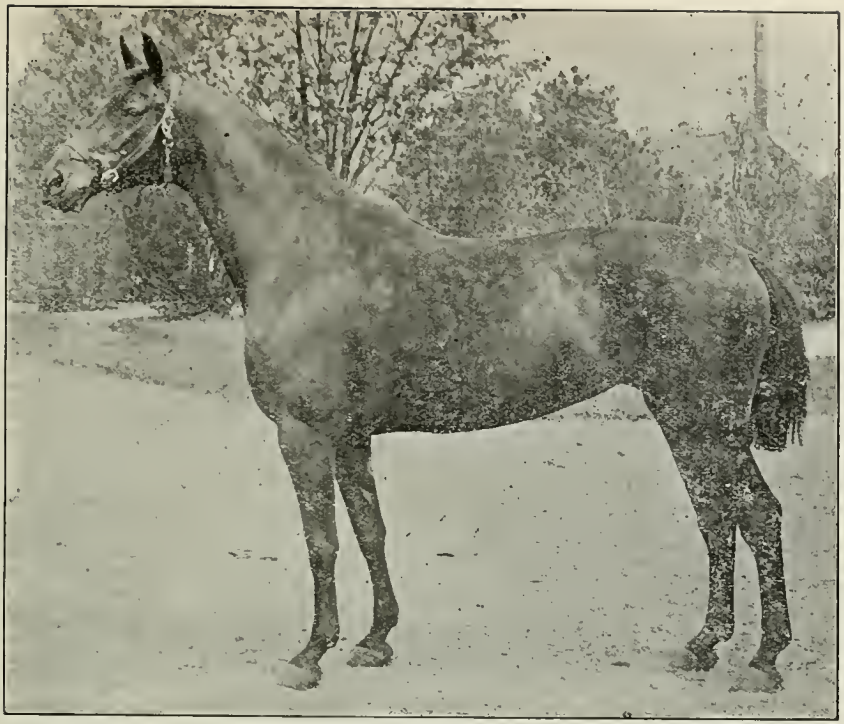
Prize Clydesdales.

Six Clydesdales, exhibited by, George Moore, Waterloo, Ont. at the International Live Stock Exposition, Chicago, 1900 The pair next wagon are Berlin, 4 years, 1,840 lbs., and Waterloo, 4 years, 1,840 lbs., both by Bold Boy; the middle pair are Maude, 5 years, 1,775 lbs., by Croy Lynedoch, and Bobs, 4 years, 1,850 lbs., by Lord Fyfe; and the first pair, Wallace, 4 years, 1,700 lbs., by Erskine Style, and Bruce, 4 years, 1,700 lbs., by Newday. They won the following prizes at the show: 1st prize, best pair, 3,400 lbs. to wagon; 1st for best pair over 3,400 lbs. to wagon; 1st for best 6-horseteam to wagon; 1st for best 3 horses abreast to wagon; 1st for best 4-horse team to wagon; gold medal for best pair to wagon, and gold medal for best four Clydesdales to wagon. They sold for $3,000 to Nelson, Morris & Co., Chicago. Mr. Moore is standing by the front wheel of the wagon.

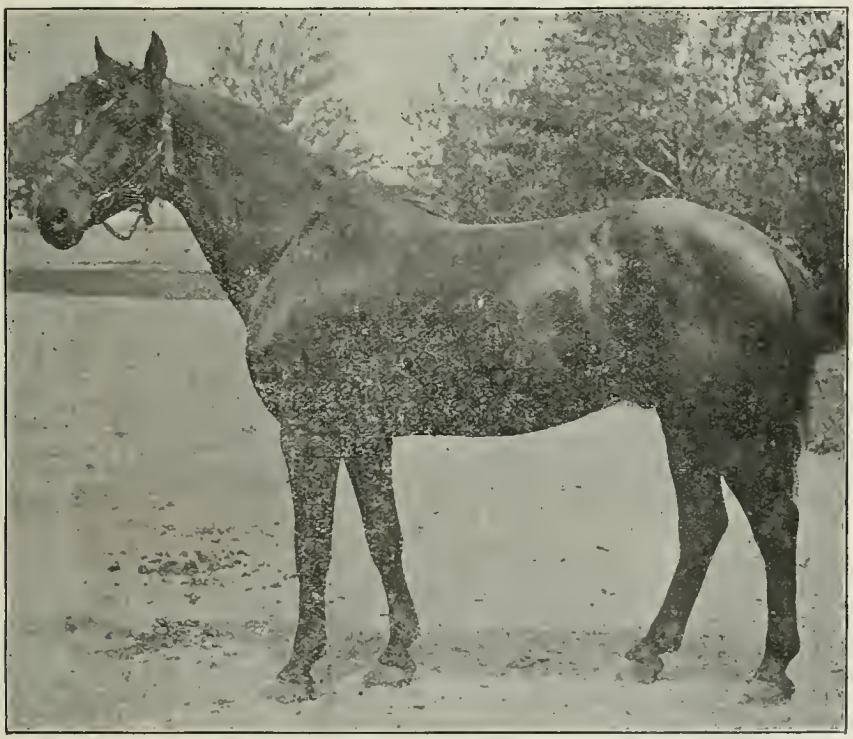


16th Battery C.F.A.
(Ontario Agricultural College).

The officer on white horse in centre of group is Lieut. McCrae, who had charge of a section of D Battery in South Africa. The horses shown are good types for artillery purposes



Bred in Ontario and bought by Col. Dent for the Cavalry Class, 15.1½ to 15.3½ Hands.



Strong but Active, for the Artillery Class.

weather they were plunged into a thaw, during which they were loaded on the S.S. "Laurentian," into stalls that were in many ways unsuitable, and at all times hot. Pneumonia broke out and ten per cent. of the horses on board died. The usual tropical weather was experienced crossing the line, and the stables were extremely hard to ventilate.

The Hardest March of the War. Two weeks after landing at Cape Town they were sent into the Karroo desert upon what proved to be (as far as I can ascertain), the hardest and longest continuous artillery march of the war. It consisted of 560 English miles through desert land, where water is of the scantiest; where the roads were at times almost impassable, and where not one blade of grass grows. During about three and a half weeks the total daily ration per horse was five pounds of wheat and five pounds of chaff, supplemented by what woody roots of the Karroo bush the horses were able to get out of the sandy ground. The latter 280 miles of the march were made in thirteen days' continuous marching, notwithstanding the horses were in poor shape before this half of the march began. It was a common sight to see, during a five-minute halt, the horses lying down in their harness to take advantage of the few minutes' rest. At no time was the battery unencumbered with foundered horses, so lame that they had to be dragged along in cruel fashion by the other teams. Several horses dropped dead suddenly. The majority suffered severely from sand colic. Hunger was constant and never-ending, and the horses, unless prevented, invariably ate their manure. All these details are introduced that it may be understood what extraordinary privations the horses (as yet unused to the country) suffered. After this march, which lasted about seven weeks, the work of the Canadian horses was just the average work of Field Artillery, as performed by all the batteries on service; but it will be readily understood that many of the Canadian horses were throughout the war never able to regain thoroughly their condition, and the work which was done afterwards redounds to their credit all the more on this account.

After a Year's Work Sold for $115.00 Each. In the latter half of November "D" Battery, before leaving Africa, sold to the Imperial Government seventy-eight Canadian horses, which were valued by a board (consisting of two Imperial officers and one Canadian officer). The price, with the exception of one or two, which were almost valueless, averaged about $115.

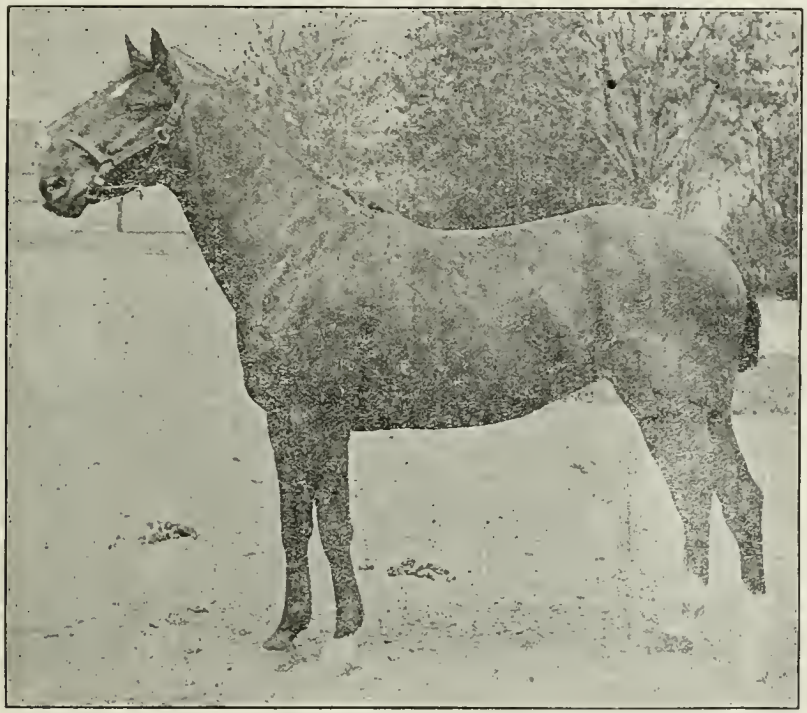
The British Artillery horse did well, but the above record is more than good. I have no absolute figures at my command, but I know from the statement of many Royal Artillery officers that most of their batteries, which did similar work, were furnished with remounts again and again; some of them, indeed being re-horsed completely several times. Losses in action, except in a few instances, may be ignored as being at all times inconsiderable.

Had Good Drivers. The reasons for the excellent showing of our horses may be attributed in some measure to the care that was bestowed upon them by their Canadian drivers, who at all times were most energetic in procuring what food was available, but so far as one can see it depends almost entirely upon the quality and stamina of the Canadian horse.

Mostly Farm Horses. Our horses were mostly, as already stated, ordinary farm horses. Highly bred horses it was thought would be too high strung and nervous to stand well the very long sea voyage, as well as being too spirited for steady work in action, where a fractious horse might prove a very serious problem. Many of our teams showed a Clydesdale cross; a very few may have been Shire, while in the horses bought in the neighborhood of Ottawa some of the old French blood may have been present. Compared with the British Artillery horse our horses looked to be heavier in the bone, rather smaller in the barrel, and altogether less stylish both in build and action; but the British horses which we obtained at the Remount Stations generally showed far less power of endurance when side by side with our horses doing similar work. They lacked the spirit shown by the Canadians in keeping at their work until completely done up.

Farm Horses Best for Army Work. Such horses as I have spoken of are exactly the horses that our Militia Batteries take to the Annual Instructional Camps, and are procurable in large numbers with very little difficulty. They have had all their lives only the ordinary care that is bestowed on farm horses, fairly well fed, rarely well groomed, and most of all they have hard work of a kind that would seem to fit them perfectly for military requirements. It is a question how far the excellent work they have done is referable to their somewhat hard home life, and whether a too-well housed and too-well cared for horse is not rather the worse for it when he comes to the hardships of campaign. There is no horse so fit for work in any climate and in all degrees of privation as the horse whose muscles are in good training from constant farm work. If

the goodness of the Canadian horse be due to this training, rather than to any innate qualities, it follows that a couple of years in the comparatively easy work of barrack life would render him less fit to stand hardship and privation, than if he were taken straight from his farm life. Apart from all theory and all debate, the horse as he stands in Canada, is exceedingly well suited to artillery work, whether at home or abroad. It seems fair to suppose that means might be adopted whereby many of our horses might be immediately taken, though it does not come within the scope of this short paper to suggest exactly how this should be done. The fact remains that many horses will be



A Good Type of the Mounted Infantry Class, 14.1 to 15.1 Hands.

required for artillery purposes within the next two or three years in South Africa, quite regardless of the actual termination of the war; and should another war occur we know that we can on short notice supply a large number of horses fit to take the field at once without undergoing any longer time of acclimating and training than the horses of the South African mounted troops received.

There is no time so fit for action in this matter as the present, when the record of the Canadian troops and horses is yet fresh in the minds of those in authority in Britain, and could a means be devised of bring them to make further purchases now, there is every reason to suppose that the Canadian farm horse would so well uphold the reputation he has already earned that a large and profitable trade would certainly follow.

CANADIAN ARMY HORSES.

Major Dent's Views.

In his last report to the Department of Agriculture, Dr. McEachran, Dominion Veterinary Inspector, includes an account of the Canadian horses sent to South Africa with the various contingents, as well as by special shipments. In all 5,138 were shipped, of which 1,353 went with the contingents, and 3,785 were purchased by Major H. Dent, remount officer for Canada. The latter, in a letter to Lord Strathcona, thus describes them :—

"About 15 to 15.2 hands high, a few are about 14.3. Ninety-five per cent. are thoroughly broken to cowboy work, taught to rein in by the neck, stop suddenly, turn on the hind feet

as a pivot, stand on the prairie with the reins over their heads, ford and swim rivers, and go at a rapid pace up and down hills. They are stout animals, with good short backs and strong quarters, good bone, and as active as cats ; horses which know nothing of stables or grooming, accustomed to be ridden half a day or more, and at night simply stripped of saddle and bridle and turned loose to find their food."

Extracts from letters from Colonel Steele, dated Paardekop, August 6, 1900, bear witness to their excellence for the service required of them. He says :—

"I wish to assure you that the horses are the best in this army. Two squadrons had the 450 spared, and they had to do all the hard scouting and advance guard work, while "C" squadron, with the Argentines, had to be spared for a long time. We have lost very few Canadians, and have changed our other remounts several times. It is the opinion of officers and others who have looked at the horses that they are the best that have been imported into the country, and, outside of the native-bred pony, best fitted for the work."

Major Dent writes recently to Dr. McEachran, and makes an important suggestion :—

"I was pleased altogether with the class of horses which were brought before me, but I think great improvement can be made by using the English thoroughbred stallion as a sire, and doing away with the American trotting sire, which, in my opinion, has done a great deal of harm to Canadian horses. I attribute the long back and weakness of back ribs and bones, also smallness of bones below the knee, to the American trotter. I wish to urge on the Canadian farmers and young men in Canada to take to riding instead of always driving. They would add greatly to their health and happiness by so doing, and enhance the value of their horses 50 per cent. It is difficult to find in the country districts a horse that has ever had a man on its back.'

In accordance with his views, Major Dent is selecting three thoroughbred stallions for exportation to Canada.

DISCUSSION.

Q. Which is the most profitable horse to raise ?

A. T. G. Raynor, Rosehall : The heavy horse. There is money in a good carriage or coach horse as well.

Q. What is the best food for a good driving horse, averaging from 15 to 20 miles daily, and also the quantity ?

A. Good Timothy hay and oats. About 1 lb. hay to 100 lbs. horse's live weight. Oats in proportion, about 1 gallon at a meal. Limit the hay in morning and in noon, and give largest quantity at night.

Q. Are oats better fed whole or chopped ?

A. Whole oats for all horses that can masticate them. If much foul seed in, then chop.

Q. Will not the standard bred horse produce good saleable stock ?

A. Yes, if the size is a good large one—sixteen hands.

Q. How would you feed a brood mare ?

A. Feed her on such bone and muscle foods as clover hay, bran, roots and oats.

Q. Do you approve of exercise ?

A. Yes, moderate exercise is very beneficial.

Q. How should young foals be treated for costiveness ?

A. Molasses or sugar in milk, and one or two raw eggs.

Q. How do you feed your idle horse in winter ?

A. D. C. Anderson, Rugby : I feed no hay whatever, but plenty of clean oat straw, with a half a gallon of oats and a pound of bran morning and night. At noon feed two or three undersized turnips.

Q. What style of horses would you advise the farmers to breed ?

A. Major Sheppard, Queenston : A heavy horse, fit for the American market or a horse fit for the British army service, but only a good horse in any case.

FEEDS AND FEEDING.

By Henry Glendenning, Manilla.

We as farmers often complain of the low prices obtained for our farm products, and refer to the high figures such products brought twenty and twenty-five years ago, and at the same time point to the manufacturer as a prosperous man who makes money by his business. Let us compare prices obtained by the farmer and manufacturer of to-day with those of twenty and twenty-five years ago.

We Must Lessen the Cost of Production. The average reduction in the price of grain is about one-third, while stock and dairy products are about the same price as

formerly. Now how does it stand with the manufacturer ? Less than twenty years ago a binder sold for $300. A better machine is sold to-day for $120. But some persons may object to this and say the binder is a special implement in this respect. We admit that it is, but will take one of the common implements of the farm, the plow. To-day a much superior implement is sold for $10 to $12 than was formerly sold for $20 to $25. We can safely assume the price of farm implements has been cut in two, and still the manufacturer makes his usual profit. How is this done ? By reducing the cost of production. Can we not as farmers take a leaf from the manufacturers' book and see if we can reduce the cost of production, as we have little or no control of the prices which we obtain for our goods. The products that have had the greatest fall in prices are grain and hay, and they are the ones that are the greaest drain upon the fertility of the soil if sold off the farm. Therefore the modern, up-to-date farmer will manufacture his raw material, hay, corn, grain and roots into beef, pork, mutton butter, cheese poultry and eggs.

Then let us ask ourselves the question, Can we, like the manufacturers of agricultural implements, reduce the cost of production ? I think we can do something on that line. Assuming that we have buildings in a warm and comfortable condition, to assist in keeping up the bodily heat of the animals, thereby saving feed that would otherwise go as fuel, can we feed so as to get more out of the food consumed than formerly ? That is the question for us to consider. Many years ago farmers discovered that they could obtain better results from feeding a mixed ration than one kind of feed alone. Here was a result, but the cause they could not tell. Science came to the rescue and pointed out that all grains and feed stuff contained certain nutrients, but not in the same proportion, and that it required certain kinds of nutrients to build up the animal and restore the waste tissues of the body. One kind of nutrient produces bone, another lean meat of muscle, and another fat and heat and gives energy. All of these elements are essential to the production of the animal. Therefore it is necessary for the farmer to understand these principles so that he may feed enough of each element and produce his animal at the lowest cost without waste.

The following tables show the analysis of grasses, grains, roots and by products of the farm :—

Digestible Nutrients of Feed Stuffs per 100 lbs. Concentrates.

	Dry Matter.	Ash.	Protein.	Carbo-hydrates.	Fat.	Nutritive Ratio.
Wheat	89.5	1.8	10.2	69.2	1.7	1:7.1
Barley	89.1	2.4	8.7	65.6	1.6	1:7.9
Rye	88.4	1.9	9.9	67.6	1.1	1:7.0
Corn	89.1	1.5	7.9	66.7	4.3	1:9.8
Peas	89.5	2.6	16.8	51.8	0.7	1:3.1
Oats	89.0	3.0	9.2	47.3	4.2	1:6.2
Buckwheat	87.4	2.0	7.7	49.2	1.8	1:6.7
Field Beans	85.5	3.1	23.0	50.2	1.4	1:2.3
Flax Seed	90.8	4.3	20.6	17.1	29.0	1:4.2
Sunflower	92.5	2.6	12.1	20.8	29.0	1:7.4
Wheat Bran	88.1	5.8	12.2	39.2	2.7	1:3.7
Wheat Shorts	82.2	4.6	12.2	50.0	3.8	1:4.8
Linseed Meal, O P	90.8	5.7	29.3	32.7	7.0	1:1.6
Cottonseed Meal	91.8	3.5	37.2	16.9	12.2	1:1.2
Grasses, Green.						
Kentucky Blue Grass	34.9	2.8	3.0	19.8	.8	1:7.2
Orchard	27.0	2.0	1.5	11.4	.5	1:8.0
Red Top	34.7	2.3	2.1	21.2	.6	1:10.0
Timothy	38.4	2.1	1.2	19.1	.6	1:17.1
Clovers, Green.						
Red Clover	29.2	2.1	2.9	14.8	1.7	1:5.6
Alsike Clover	25.2	2.0	2.7	13.1	.6	1:5.3
Lucerne Clover	28.2	2.7	3.9	12.7	.5	1:3.5
Hay.						
Red Clover	84.7	6.6	6.8	35.8	1.7	1:5.8
Timothy	86 8	4.5	2.8	43.4	1.4	1:16.7
Straw.						
Oat	90.8	5.1	1.2	38.6	1.8	1:33.1
Peas	84.0	4.5	2.9	33.4	1.5	1:12.0
Silage.						
Corn	20.9	1.4	.9	11.3	.7	1:14.4

DIGESTIBLE NUTRIENTS OF FEED STUFFS PER 100 LBS. CONCENTRATES —*Concluded.*

	Dry Matter.	Ash.	Protein.	Carbo-Hydrates.	Fat.	Nutritive Ratio.
Roots						
Sugar Beets, feeding	13.5	.9	1.1	10.2	.1	1:9.4
Mangels	9.1	1.1	1.1	5.4	.1	1:5.1
Turnips, Swedes	11.4	1.2	1.0	8.1	.2	1:8.5
Carrots	11.4	1.0	.8	7.8	.2	1:10.3
Parsnips	11.7	.7	1.6	11.2	.2	1:7.3
Potatoes	21.1	1.0	.9	16.3	.1	1:18.5
Rape	14.0	2.0	1.5	8.1	.2	1:5.7
Field Pumpkins	19.1	.5	1.0	5.8	.3	1:6.5
Milk and its Bye Products.						
Milk, new	12.8	.7	3.6	4.9	3.7	1:3.8
Milk, separator	9.4	.7	2.9	5.2	.3	1:2.0
Buttermilk	9.9	.7	3.9	4.0	1.1	1:1.7
Whey	6.6	.4	.8	4.7	.3	1:6.8

The first column represents the dry matter that the food contains, the balance being water. All food stuffs contain water. The amount varies from eight to fifteen pounds per 100 pounds in such dry material as hay, straw and grain, and from 60 to 90 pounds in green grasses and roots. The animal makes use of the water to form a portion of the organs and fluids of the body, to aid in dissolving solid food and to carry it by means of the blood to the various parts of the body.

Definitions. Ash is what is left when the combustible part of feed stuff is burned away. It consists chiefly of lime, magnesia, potash, soda, iron, chlorine and carbonic, sulphuric and phorphoric acids, and is used largely in making bones and in furnishing certain constituents of the digestive fluids.

Protein (or nitrogenous materials) is the name of a collection of compounds containing nitrogen. Protein furnishes the material for the lean flesh, blood, skin, muscles, tendons, nerves, hair, horns, wool, the casein of milk and the white of eggs, and is one of the most important constituents of feeding stuffs.

Digestible Carbohydrates (nitrogen free extract) includes starch, sugar and gums, and forms the largest part of all feeding stuffs, but especially of the grains. They are either manufactured by the animal into fat or burned in the body to produce heat and energy.

Fat (ether extract) is an impure product and includes besides real fat or oils, such as linseed or cotton seed oils, wax and the green coloring matter of plants. The fat of food is either stored up by the animal as fat or burned as fuel to furnish heat and energy. The heat or energy which a pound of fat will supply through combustion is equal to what would come from the burning of 2 1-4 pounds to 2 1-2 pounds of sugar or starch.

The Nutritive Ratio is the relation that the protein bears to the digestible carbohydrates and fats combined. When feeding a full ration to animals (say for the production of milk) under summer conditions of temperature and not too much exercise being given, requires about one part of protein to 5 1-2 parts of the carbohydrates. But here the good judgment of the feeder is required. If the stables are cold, or only a maintainence ration being fed, the carbohydrates must be increased. It has been ascertained by experiments that at times it requires as much as eleven parts of the carbohydrates to one of protein. This will show the folly of feeding in cold quarters, or only enough feed to maintain the animal without making bodily gain or producing milk. The feed has been wasted or burned up in the body of the animal without any profit to the feeder, the same as wood or coal would be in an engine boiler to keep the water warm without producing steam.

PEAS AND CORN.

By a careful study of the foregoing tables we may obtain some hints as to a correct basis from which to work in the mixing of feeds. Take for example peas; we find that they contain a fair amount of bone-forming material. They are very high in protein or flesh-producing elements, but low in the digestible carbohydrates and fat, which gives us what is known as a narrow nutritive ratio of 1 of protein to 3.1 of carbohydrates and fat combined.

This shows us that by feeding peas alone to animals such as hogs that a large percentage of the protein, which is the most valuable element, will be wasted by going out on the manure pile. Now, if we take corn, we find it is very low in bone-forming material. It is also low in protein for a grain, but is very high in the carbohydrates and fat that gives a nutritive ratio of 1 of protein to 9.8 of the carbohydrates combined, which is known as a wide nutritive ratio. In feeding corn alone a large percentage of the carbohydrates and fat are wasted by going out on the manure pile. Now if we grind corn

and peas together, say 100 pounds of peas and 60 pounds of corn, this would give us a mixture having a nutritive ratio of 1:5.6, which would make a good ration for hogs in a warm pen, but as hogs generally do much better when they have considerable exercise and the temperature is not always summer heat, we have to allow a little more fuel and for waste of tissue used up by the animal in the way of energy. Therefore if we mixed 100 pounds each of corn and peas, this would give us a feed with a nutritive ratio of 1:6.4, which will be found very good in our Canadian climate. By feeding such a ration very little loss will occur by the different nutrients being excreted.

PASTURE.

In regard to grasses and clovers it will be noticed that most of them are pretty well balanced, Timothy being the widest. All of the clovers are excellent bone and flesh formers. A variety of grasses and clovers will give better results than any one kind alone. They not only give a better balanced ration, but there is the advantage of having grasses and clovers coming in fresh during a greater portion of the season, as all grasses do not commence to grow or mature at the same time.

Select Your Animals. If a farmer wishes to get the best results from his feed he must not only feed a well-balanced ration, but must feed to animals that have a predisposition to convert the food consumed into the product that he has in view. For insance, if it be beef he must feed to some animal that wil lay on flesh and fat readily; if it be to produce butter and cheese he must feed to animals that have the power to convert it into milk. Few animals have the propensity to turn feed into both beef and milk profitably.

DISCUSSION.

Q. What about milk for feeding young pigs ?

A. Whole milk is the best of nature's foods, but whole milk is seldom fed. In the operation of skimming the fat is removed, which changes the character of the food very materially. Skim milk is rich in bone and flesh forming materiai, but owing to the fat being removed, it is a very one-sided ration, having what is known as a narrow nutritive ratio. It has a great tendency to be constipating when fed alone to young pigs. Many farmers have suffered much loss by feeding too much skimmed milk to young pigs when shut up in pens where they could not get to the ground or succulent food, such as grass and roots. The pigs usually look fat and well until some morning, when being fed, some of them will take what is commonly known as a fit and may die inside of an hour. If they do recover, and the food is not changed, they and their companions will show a dirty,scurvy appearance on the skin about the eyes, back of the ear and back of the shoulders, and the hair becomes curly, and the pig will have a tendency to go around with his back humped up. This is owing to a deranged condition of the digestive organs, which should be remedied by giving the pigs a dose of raw linseed oil, and then follow by giving plenty of succulent food, such as roots or grass, and plenty of exercise.

I do not wish to be understood to condemn skimmed milk for food. It is one of the best of feeds, but it should not be fed in great quantities to young pigs. A little ground flax seed is an excellent thing to add to it.

Q. Do you believe in feeding ensilage made from corn ?

A. I do.

Q. Is corn silage a well-balanced food ?

A. No, it is very one-sided, being composed largely of the carhohydrates.

Q. Why do you recommend it for feeding ?

A. It is one of the hulk foods, and that is a requisite in stock feeding. It contains a large quantity of carbohydrates and fat, and possesses great succulency.

Q. Why do you emphasize succulency ?

A. All stock will do much better by being fed a certain amount of succulent food during the winter months. We should aim at keeping our stock as near summer conditions as possible, and on that account we feed our stock in the stable ensilage and roots, to take the place of grass in summer.

Q. What is the best time to cut corn to put in the silo ?

A. When the grain is between the glazed and ripening stage.

Q. Will corn that is cut at the proper time and shocked in the field till cured, then put in the barn, make as good feed as that that is saved in the silo ?

A. No.

Q. Why?

A. The corn plant contains 79 pounds of water and 21 pounds of dry matter in each 100 pounds of green corn, as it goes to the silo. Less than two pounds of this dry matter is taken from the soil to build up the plant, the balance being taken from the atmosphere in the form of carbonic acid through the medium of its leaves, where it is transformed into sugar and starch, which is the most valuable portion of the corn plant. But by the drying action of the wind and frost this starch is largely transformed

into woody fibre, which becomes mainly indigestible. What was a valuable food in October has become in March a bundle of sticks, with very little nutriment in them.

Q. Will you give a balanced ration from corn ensilage, clover hay, wheat bran and peal meal for a dairy cow in full milk of 1,000 lbs. live weight per day ?

A.	Dry Matter.	Protein.	Carbohydrates
Corn Silage, 40 lbs..	8.40	3.60	5.160
Clover Hay, 10 "	8.50	6.80	3.960
Pea Meal, 4 "	3.58	6.72	2.072
Wheat Bran, 4 "	3.52	4.88	1.568
Totals.. 58 "	24.00	22.00	12.760

This will give a nutritive ratio of 1:5.7.

Q. Do you think there is danger of milk that has been drawn from a cow that has not been fed turnips absorbing the flavor of turnips allowed to stand in a badly-ventilated stable, where turnips are fed to other stock ?

A. I am of the opinion that milk that is allowed to stand until cold in a stable where turnips are being fed to other stock may absorb and taint that milk the same as any other bad odor that may be in the stable.

Balanced Rations for Stock.

The following is an account of the experience of two brothers living in the State of New York. Their experience may be helpful to some of our Farmer's Institute members :—

David and John lived on the outskirts of a village, but on the oposite sides thereof. One Saturday morning there was an auction sale in town, and among the things sold were several fine milch cows, of no particular breed. David and John each bought two cows. These cows were "fresh ;" that is, they had been giving milk for about one month. Each cow gave an average of twenty-five to thirty pounds of milk a day. Each man intended to buy feed for his cows and sell the milk to the village people. These cows were to be used as machines with which to convert raw material, as grain and coarse fodder, into the manufactured product, milk. About two months later we heard that David had sold his two cows to John. He complained that they had steadily fallen off in milk since he bought them, until each cow gave scarcely fourteen pounds a day. Here was a difference of sixteen pounds, or over half, in three months. What was the reason ?

It at once occurred to us that John must have given his cows better care than David. We went to each man and asked him how he had fed his cows. David said he had given each cow a small armful of timothy hay and three or four quarts of corn meal each morning and night. This would be about twenty pounds of hay and ten of meal each day. He did not think it was necessary to feed his cows any particular kinds of food in order to get the most milk from them. Anything the cows would eat was good enough, if it only filled their stomachs and satisfied their hunger.

John said that he gave each of his cows a daily ration of about twenty pounds of clover hay, three pounds of wheat bran and six pounds of ground oats. He believed that a cow needs variety in what she eats, as well as a man, and that he tried always to give his cows an occasional relish of carrots, turnips and small potatoes, or even apple parings from the kitchen. "Of course," said John, "a cow can live and give milk if kept on the same feed day after day, but I have always found that she is grateful for a little personal attention and will pay for it with a larger yield of milk." David had been paying $6 a month for the food of each of his cows, actually more than the milk was selling for; John's ration cost him but $5 a month per cow, yet he was getting double the amount of milk David did, and was making money. David was disappointed; John was well pleased. But the chief reason for John's success was not because he gave his cows a greater variety of food than David, but because he fed them those foods which are well suited for the production of milk. David gave his cows a liberal allowance of hay and corn meal. These are both good foods for making fat, but are not rich in those materials which a cow needs in order to increase her flow of milk. They are better for fattening steers than for feeding to milch cows. In other words, John had been feeding a balanced ration and David an unbalanced ration.

DISCUSSION ON BEEF CATTLE.

Q. Do you think that cattle fed in a loose place will kill as large percentage of beef as those stall fed ?

A. Prof. G. E. Day, O.A.C., Guelph : There is no reason why they should not, provided they are as fat.

Q. Which will pay best for the average farmer, to feed cattle till they are two years old and sell, or to finish, and why ?

A. No definite answer is possible. It is largely a question of markets. So far as the soil is concerned, the second plan is undoubtedly the best, and since the soil is the main factor to be considered, it is reasonable to assume that the safer plan is to finish cattle before selling. Bone and muscle contain much plant food. Fat contains none. The inference is not difficult.

Q. In buying feeding cattle, what age and weight are most profitable ?

A. This question has not yet been settled. On the whole, one would probably be safer to buy growthy, thrifty-looking steers under three years old.

Q. Is it profitable to dehorn cattle ?

A. Generally speaking, I think it is, though I do not approve of dehorning steers immediately before putting in the stable to fatten. This is, perhaps, the greatest drawback to feeding loose. Many steers will gain very little for a month after being dehorned.

Q. Would you prefer good timothy hay or good oat straw for feeding cattle ?

A. Timothy hay.

Q. What advantages has loose feeding, and what is the best system of doing it ?

A. It has never been clearly demonstrated that loose feeding is more economical than feeding tied. The animals fed loose generally have better appetites, and they do not become crippled.

Q. What do you recommend for killing lice on cattle ?

A. Almost any of the standard sheep dips will answer. Seal or fish oil, with about a tablespoonful of crude carbolic acid to the quart of oil, will give very good results.

Q. Which is the best and most profitable method of fattening cattle, by feeding ensilage or by feeding chop. If chop, what kind ?

A. Ensilage will not take the place of meal. Meal is necessary whether ensilage is fed or not. A great variety of meal may be used, and the more kinds of grain used for the meal mixture the better. Equal parts of corn, peas and oats will be found a good mixture. Barley and corn do very well. It is better to feed a little bran with corn than to feed the corn alone.

Q. Would you let a sucking calf run with the cow in pasture or keep it in the stable ?

A. By all means keep the calf in the stable, but give a roomy box for exercise.

Q. What is the reason that calves start chewing at wood, and quit feeding ?

A. Usually due to digestive troubles due to injudicious feeding. Too much skim milk is a common cause of indigestion.

Q. What is the most profitable age to turn off beef cattle ?

A. R. S. Stephenson, Ancaster : About two years and a half to three years. It costs more to put an hundredweight of increase at three years than it does at two years.

Q. Is it better to cut hay, or feed long ?

A. Nothing is gained by cutting hay for cattle.

Q. Is it better to feed grain dry, or wet ?

A. I do not think there is anything gained by wetting grain for cattle.

Q. Which will pay best, feeding for beef or making butter ?

A. It will depend on conditions a good deal. Usually a pound of butter can be made as cheaply as a pound of beef, and the butter will sell for the most money.

BEEF RINGS.

By W. S. Fraser, Bradford, Ont.

Beef ring is a term applied to the union of a number of farmers for the purpose of supplying themselves with fresh meat during the summer months. It is done by killing an animal each week, and dividing it equally among the members in a way that each one receives a boiling piece, a roast, and a piece of steak each week. The modus operandi is as follows :—

In the winter season a meeting is held, at which tickets are drawn, to decide the order in which the members are to furnish the animals. Members may exchange tickets after drawing if they find it to be mutually advantageous.

A person is appointed to do the butchering. It is not necessary that he be a professional, but one that has taste to do his work in a tidy manner. A secretary is also appointed. The time for commencing operations is decided at the meeting, as also is the price to be paid for butchering, which is usually $2 per head.

Duties of Butcher. He provides a suitable place for killing, furnished with a hook for each member, on which each man's share is to be hung.

He kills the animal in the evening and cuts it up in the morning, weighs each share, hangs it upon its respective hook before 6 o'clock, and gives hide, head, heart and fat to owner of animal.

He keeps an accurate account of the weight of each animal, of the quantity that each one receives per week, and in case of an animal being of inferior quality, he shall

consult with the secretary and decide upon the value of the beef per pound, prices varying from four and a half to six cents per pound.

He changes each week the order in which the cuts are distributed, e.g., the cut No. 1 receives this week No. 2 receives next week, and No. 1 takes the place of No. 16.

He renders to Secretary an account at the end of season, the weight of each animal and of weight of meat received by each member, as shown by the following table :—

2. Front shank rump, No. 2 .... 3. Neck and rump, No. 1 ..... 4. Flank and roast, No. 2 ..... 5. Shoulder and roast, No. 4 ... 6. Hind shank and roast, No. 3 .... 7. Second rib and roast, No. 1 ... 8. First rib cut and sirloin.....	—	A's beef.	B's beef.	C's beef.	D's beef.	E's beef.	F's beef.	G's beef.	H's beef.	I's beef.	J's beef.	K's beef.	L's beef.	M's beef.	N's beef.	O's beef.	P's beef.
1. Brisket and roast, No. 5	1. A.	26	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
2. Front shank and rump, No. 2	2. B.	29	....	....	...	....	....	....	....	....	....	....	....	....	....	....	....
3. Neck and rump, No. 1	3. C.	27	....	....	....	....	....	....	....	....	....	....	..	...	....	....	....
4. Flank and roast, No. 2	4. D.	30	....	....	....	....	....	....	....	....	....	....	....	....	....	....	...
5. Shoulder and roast, No. 4 ...	5. E.	28	....	...	....	....	....	....	....	....	....	....	....	....	...	....	....
6. Hind shank and roast, No. 3	6. F.	29	....	....	...	....	....	....	....	....	....	....	....	....	....	....	....
7. Second rib cut and roast, No. 1.	7. G.	25	....	...	....	....	....	...	....	....	....	....	....	....	....	....	....
8. First rib cut and sirloin	8. H.	27	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
9. Brisket and roast, No. 5	9. I.	26	....	....	...	...	....	....	....	...	....	....	....	....	....	....	....
10. Front shank and rump, No. 2	10. J.	28	....	....	....	....	...	....	....	....	....	....	....	....	....	....	....
11. Neck and rump, No. 1	11. K.	30	....	....	....	....	...	....	....	....	....	....	....	....	....	....	....
12 Flank and roast, No. 2	12. L.	26	....	....	....	....	...	....	...	....	....	....	....	....	....	....	....
13 Shoulder and roast, No. 4	13. M.	27	....	....	....	....	....	....	....	....	....	....	....	...	....	....	....
14. Hind shank and roast, No. 3	14. N.	31	....	....	....	....	..	....	....	....	....	....	....	....	...	....	....
15. Second rib cut and roast, No. 1.	15. O.	25	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
16. First rib cut and sirloin	16. P.	27	....	....	....	....	....	....	....	....	....	....	....	....	....	....	..
		441															

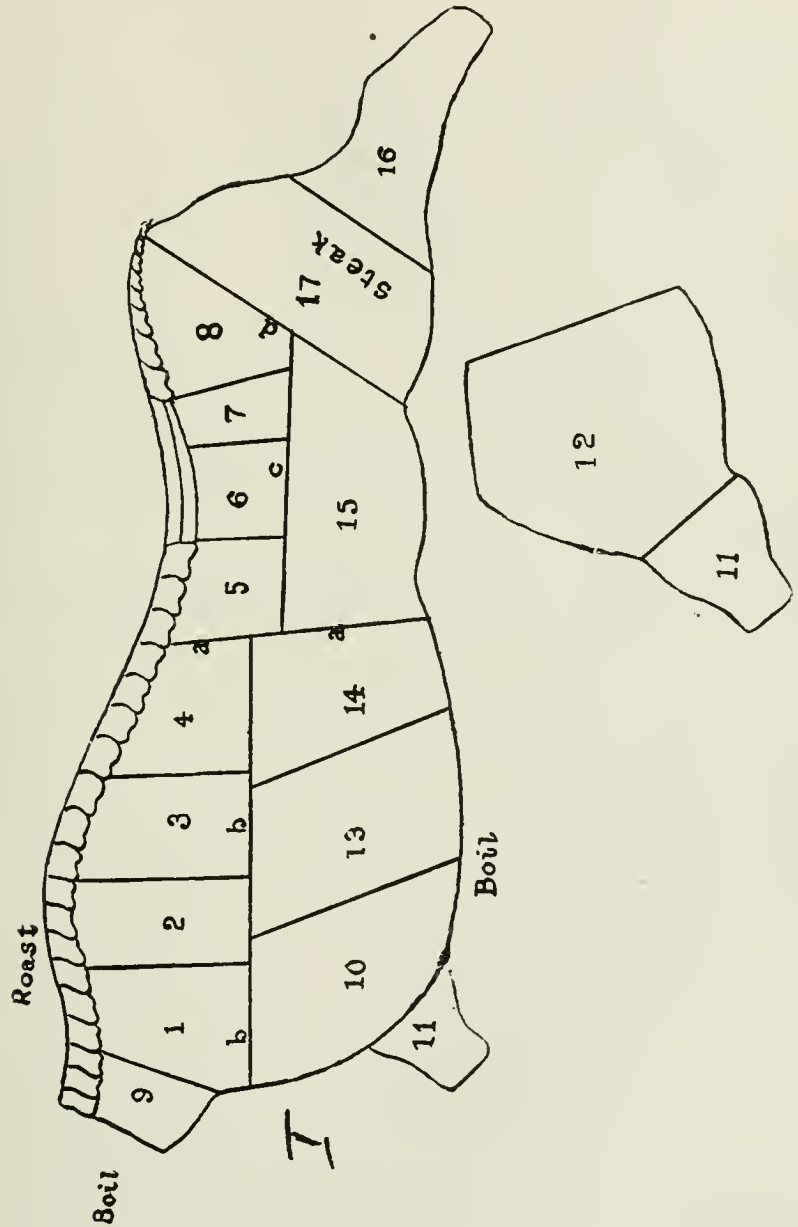
This time-table represents the way in which the beef is to be divided and weighed out to each person. The diagram represents A's beef being slaughtered and weighed out to the men composing the ring. No. 1 cut goes to No. 1 man the first week, to No. 2 man the second week, and to No. 3 man the third week, etc. This is done by moving the long list of cuts (at the left edge of time-table) down one space for every beef that is slaughtered, which changes the cut for each man. This slip is let down week after week until No. 2 comes opposite No. 1 man, then No. 1 cut is placed opposite No. 1 man again, as all the cuts in one-half of the beef is contained in the first eight numbers, and the other half of the beef has the same cuts in it.

A's beef weighs 441 pounds, which he is credited with. The numbers below each man's name is what he puts in, and the numbers opposite each man's name is what he takes out.

Figure I. Represents one-half of beef lying on table ready for the saw. Before letting this half down divide it in the middle by running a saw across at "a," between the roasts 4 and 5, leaving two ribs on hind quarter. After laying both quarters on the table divide fore-quarters at line "b."

Fig. 1. Represesnts one-half of beef lying on table, ready for the saw. Before letting this half down divide it in the middle by running a saw across at "a," between the roasts 4 and 5, leaving two ribs on hindquarter. After laying both quarters on the table, divide forequarter at line "b."

No. 9. Represents neck. Saw neck off, leaving three joints on it.



No. 1. Represents roast No. 1. Saw roast No. 1 off, leaving three joints on it.
No. 2. Represents roast No. 2. Saw roast No. 2 off, leaving three joints on it.
No. 3. Represents roast No. 3. Saw roast No. 3 off, leaving three joints on it.
No. 4. Represents roast No. 4. Saw roast No. 4 off, leaving four joints on it.
No. 11. Represents front shank. Saw front shank off above upper joint.
No. 14. Represents second rib cut. Saw it off, leaving five ribs on it.

No. 13. Represents first rib cut. Saw it off, leaving four ribs on it.

No. 10. Represents brisket.

No. 12. Represents shoulder, which lies directly under brisket as represented in Figure 1.

Then take the hind quarter at divide it at line "d."

No. 15. Represents flank. Cut flank off at line "c."

No. 5. Represents roast No. 5. Saw roast No. 5 off, with three joints on it.

Nos. 6 7 and 8. Represents sirloin, rump No. 2 and rump No. 1 respectively. Divide these three as near to the same weight as possible.

No. 17. Represents steak. Cut steak into slices, giving a slice to each person.

No. 16. Represents hind shank after steak is taken off.

After this half of the beef has been cut up it is divided between the first eight persons, as shown by time-table, giving each person a roast, a boil piece, and a slice of steak. Then the other half of beef is taken down and cut up in the same manner.

Duties of Secretary. He furnishes tickets with numbers on, which the members draw from a box, to decide the order in which they are to supply the animals.

He acts as valuator in case an animal is thought by the butcher to be below the standard in quality.

At the close of the season he takes from the butcher's account the quantity received by each, and presents to each individual member a statement of this and of the weight of animal furnished, and the price per pound of all. If A's animal weighed 400 pounds, and he, during the season, received 425 pounds, he must pay for the 25 pounds received, at the rate of six cents per pound, if all the beef has been up to standard. If B furnishes an animal that is decided to be worth only five cents per pound, and all the others are up to the standard, he is charged six cents for all meat received, except the cuts he received of his own animal, which will be charged to him at five cents, and all the other members will be charged at the rate of five cents for B's beef. If a member receive less than the weight of the animal furnished he shall be paid for the amount he is deficient at the rate at which his animal was valued.

Duties of Members. They shall attend meetings, draw their numbers, select butcher and secretary, and decide upon the time when they shall commence operations.

Each one shall furnish a well-fatted animal that will dress from 400 to 450 pounds, have it ready when his turn comes, and bring his animal to slaughter-house 24 hours before time to kill.

They shall come for their shares of meat the morning after it is killed.

After the season is over they shall attend a meeting, at which they will pay, or be paid, as the case may be, the amount of difference between their receipts and the weight of their beef.

The above is the way in which beef rings have been operated in Wests Gwillimbury, Simcoe County, for a number of years. It is simple, easily worked and gives good satisfaction. Sixteen is the most suitable number of members for a ring killing every week. Some continue for a term and a half, making twenty-four weeks. For the last eight weeks the members pair up and furnish an animal between two. A ring may be operated with only eight members, by killing every two weeks.

Advantages. Farmers have fresh meat at first cost.

Fresh beef in the summer is more healthful than salt pork, thereby saving much suffering, and perhaps doctor bills as well.

Farmers' wives who have fresh meat at their command have less labor and more pleasure in preparing meals than they otherwise would have.

R. C. Tye, New Hamburg: The Wilmot Beef Syndicate was formed in the spring of 1895, with twenty members. Two of the members were appointed to buy the animals, which they did from the drover. The drover agreed to deliver one each week at the slaughter-house. No animal was to be over six years old, and was to weigh about four hundred pounds dressed meat, for which he was to receive $6 per hundred pounds dressed weight. The butcher was a farmer and a member of the syndicate. He dressed the animal and cut it into twenty portions, so that every person would have a different part every ten days. After the meat was weighed it was hung on hooks opposite each person's name. The butcher also acted as secretary and treasurer of the syndicate, and received $1.50 for each beef killed. He sold the hide and tallow, which went to reduce the price of the beef. The head, heart and liver were taken by the members in turn. The members paid in some money monthly. They settled up in the fall and found that the meat had cost them $5.70 per hundred pounds. They killed twenty-five animals during the summer, and next season they expect to have a good many more members, and will either get larger animals or kill twice a week.

Elmer Lick, Oshawa : We manage our beef ring somewhat differently to what Mr Fraser speaks about. We have twenty in our ring. Six of these divide their portions with six others, thus fourteen receive full portions and twelve receive one-half portions. Those who can use twenty to twenty-five pounds per week do not divide their portions. We have strict rules as to the quality of the animals killed. They are to be under three years of age, a steer or heifer in good condition and sound health, weighing dressed from three hundred and seventy-five to five hundred pounds. A committee of three is appointed, to whom the butcher refers if any animal is thought to be unsatisfactory. We sign the rules, and at that time draw lots to determine the order in which we are to furnish the animals. After drawing lots, some may make changes which will be mutually advantageous. No. 1 furnishes his animal the Tuesday evening before the first Wednesday in June. The animal is slaughtered on Wednesday evening and cut up ready to take away on Thursday morning. The animal is to be brought Tuesday, so that it may cool before being slaughtered. An animal is killed each Wednesday for twenty weeks. Each person in the ring is to furnish two bags, with a shir string at the top of each to hang it up by. One is taken with the meat one week, and the other left for the next week's meat. We pay our butcher $2.25. He kills, cuts up, weighs each part, and keeps a strict account of weights, and he also markets the hides. The hide, head, tongue, heart, etc., belong to the person bringing the animal. The butcher cuts the beef into twenty lots, each containing a roast, a boil and a steak. These are weighed out each time and then placed on a table in rotation. After weighing each man's share it is placed in one of the bags and hung on a nail. The bag should have the name of the owner marked on it. Our meat is ready for us early in the morning. It is ready for cooking, all bones being cut properly. At the end of the season we call a meeting to settle for the balances. At this meeting each person, who has received more than he put in, pays for it at a settled price (for two years our price has been six cents per pound ; we have lowered to five cents). Those who have put in more than they have received are paid at the standard rate. We arrange for next season's ring at the time of settlement, and appoint a President, Secretary and Managing Committee, and also a committee to decide on the quality of the animal. The Managing Committee are given power to arrange for killing any other necessary arrangements. Our method of keeping the beef is to use steak and roast first ; meantime the boil is either put in brine and kept until Monday, or placed in a refrigerator. You should not judge the keeping qualities of fresh beef like this by the keeping qualities of the pieces you buy from a butcher, as the purchased meat has usually been killed several days, and kept by aid of ice. The fresh meat will keep much easier than a person would expect. It was very seldom that we had any to use on Wednesday. One thing that requires care on the part of the butcher is that he should be exact in rotating the lots of meat, so that each person would receive all the parts of an animal. Our people are pleased with the ring ; in fact, there are several others who would like to join in and enjoy fresh beef of good quality at cost price, but our ring is constantly full.

J. R. Randall, Newmarket : The first step necessary is to obtain the names of sixteen persons, who are willing to enter into such a contract. There should be sixteen, because the carcass can be more satisfactorily divided into that number of shares than any other. They should then meet as early as possible, draw up a constitution and by-laws, appoint their officers, and they will be ready for business when the time arrives, provided every member will do his best to promote the welfare of the society. First, by endeavoring to furnish a first-class young animal, and, second, by bearing in mind that it is a mutual arrangement, that there are but four shanks on a beef, and that you must expect that many, but cannot get more in the sixteen weeks. I would advise having all heifers, because generally there is less proportion of bone, and they fatten better when young, without so much growth ; they generally come better within the limits of weight. I enclose herewith a copy of our constitution and by-laws, which may, of course, be altered as desired. In our case the Secretary-Treasurer and butcher were the same person. There is a good deal of keeping accounts, and it makes a lot of work for one person. The standard price should be fixed as near the market price of good beef as possible. It is by this price that the beef is scored and settlements made at the end of the season. Where a whole share is not required in one family, it may be divided according to an arrangement made between the parties themselves. We have run it successfully for twenty-four weeks in one season. After the term had expired some person or persons were appointed to purchase such cattle as were required. It was run for eight weeks, then each member would receive one-half of a whole beef in that time, and each would pay in proportion to the number of pounds of beef received.

CONSTITUTION.

1. This association shall be known as the ——— ——— ——— Mutual Beef Association, and shall consist of sixteen members, whose object shall be to furnish each member with his quarter of fresh beef weekly during the specified season.

II. That officers shall consist of a President, Secretary and Treasurer, whose duties shall be such as usually pertains to such offices ; also a Managing Committee of three members, whose duties shall be to provide a suitable place for slaughtering, settle all differences in regard to weight, and quality of animals furnished, and the general oversight of the work, and any vacancy occurring in any office shall be filled by a vote of a majority of members present at a meeting appointed by the society, as hereinafter provided.

III. The officers shall continue in office for the period of one year, unless otherwise determined by a majority of said society.

IV. The President and Secretary shall be and are hereby empowered to convene all meetings considered necessary by them, and any special meeting at the request of any five members, given in writing.

V. Seven members shall constitute a quorum for the transaction of business.

VI. All persons becoming members of this society shall subscribe to the articles of this constitution, and will be governed thereby.

VII. The annual meeting shall be held at a place and on a day agreed upon, for the purpose of closing up the business of the current year, enrollment of members, election of officers, making arrangements for succeeding year's operations, and for the transaction of such other business as may be brought before the meeting, notice of which meeting shall be given each member by the Secretary.

BY-LAWS.

1. The society shall elect one of its members to the position of butcher (whose duties are hereinafter defined), who may secure some suitable person to perform said duties.

2. Each member shall furnish one heifer or steer, the age of which shall not exceed two years, and weighing about four hundred pounds, suitable for the purposes of the society during the season, in his proper turn, said season to consist of sixteen weeks, commencing and ending at such times as may be determined at any regular meeting of the society.

3. The order in which each member shall furnish his animal shall be decided by lot at the annual meeting, or at a meeting held at least three months prior to the day of the first killing.

4. Each member shall deliver his animal at the place of slaughter at or before 9 o'clock on the day appointed by the society for the slaughtering of each animal.

5. Each member furnishing an animal shall be entitled to and receive the rough tallow, head and heart of the same.

6. The butcher shall be the judge of the suitableness of all animals furnished, and may reject any, subject, however, to an appeal by the Managing Committee.

7. The butcher shall have authority, and it shall be his duty in fixing the price per pound of each animal delivered, to take into consideration the season of the year when such animal may be furnished, also the quality of said animal when dressed, according to a standard adopted by the society.

8. The butcher shall weigh each carcass when dressed, and keep an account of the same giving proper credit to the member furnishing said carcass. He shall also cut and distribute weekly, to each member of the society, an equal portion of the same, as near as he can judge in the division, and keep a strict account of the amount furnished each member per week, and at the end of each season settlements shall be made with the members of the society, in accordance with the accounts kept by the butcher.

9. The distribution the butcher is required to make in accordance with the foregoing rules, shall be accomplished by placing each member's portion on hooks under their respective names at the place of slaughter, or at such other place as may be agreed by the society.

10 The butcher shall market all hides and pay over to the Treasurer the money obtained by him for the same, and shall receive for his services the sum of two dollars per head for all the animals slaughtered, cut up and distributed by him.

11. The money obtained by the butcher for hides shall remain as a fund in the hands of the treasurer for the purpose of defraying the necessary expenses of the society, and settling the differences of accounts between members at the end of each season.

12. No member shall have the privilege of withdrawing from the society without the consent of a majority of said society, and in no case will a member be allowed to withdraw until his accounts are settled with the society.

13. The above articles and regulations governing this society shall remain in full force and virtue unless amended by a two-thirds vote, after a notice of such amendment has been regularly given.

REGULATIONS OF THE NORTH DARLINGTON BEEF RING.

By J. J. Smith, Secretary, Enniskillen.

In this township we have had rings for five years, and they are increasing every year. In no way can farmers get their beef as cheaply, the only cost beside the animal being the cost of killing and delivering. This ring is conducted through the summer months, commencing in May. The following rules were adopted at our annual meeting :—

We, the undersigned persons of the North Darlington Beef Ring, do hereby agree to the following conditions, in accordance with the rules adopted at a meeting held at Baker's Schoolhouse, on the evening of January 5th, 1901.

We hereby agree to deliver at A. B.'s slaughter house, in the village of Enniskillen, a steer or maiden heifer, in good condition of flesh, not over four years old (on such day as shall be decided by ticket), weighing, when dressed, four hundred and fifty pounds, a minimum weight of four hundred and twenty-five pounds, and a maximum weight of five hundred pounds will be allowed.

We agree to abide by the decision of the inspector as to whether the animal is suitable in condition and weight for killing, in case of a dispute between killer and party furnishing animal.

We agree to pay A. B. three dollars for killing and delivering an animal to a person taking all the beef in a season, and three dollars and seventy-five cents when a share is to be divided to two or more parties. The price of killing to be paid when animal is delivered at slaughter house.

In no case will the ring hold themselves responsible for the price of killing the animal. This must be settled individually.

A full share shall mean when a person takes a whole beef in a season of twenty-two and a half weeks, and a half share when a beef is divided to two or more persons in a season.

We agree to a basis of settlement at the end of season at seven cents per pound.

In case we fail to provide a suitable animal for ring we agree to pay the undersigned parties of ring eight cents per pound for all meat furnished to us by parties of ring.

We agree to pay the Secretary-Treasurer all moneys due the ring previous to the annual meeting.

This ring shall consist of forty-five persons, who shall furnish an animal for beef.

BEEF RINGS.

By Robert Philp, Cadmus, Ont.

The object of beef rings is to supply the members with a regular supply of beef through the summer season, and as our ring is managed as present we have forty members or shares, with two deliveries a week. Each member furnishes a beef animal in turn, which is decided by drawing tickets. The animal must weigh about four hundred pounds dressed. That gives each member or patron about twenty pounds a week, roast one delivery and steak or boil the next.

The party furnishing the animal pays for killing, cutting and delivering. The butcher disposes of the hide, and keeps account of the same, and if that does not pay the butcher the balance is paid by the patron providing the beef.

Each patron is expected to feed his beef not less than six weeks on meal, and if the beef does not come up to the standard, or the butcher thinks it not good enough for slaughtering, he has the privilege of calling in any member of the ring to decide, and his decision is final. If the animal is condemned the patron agrees to furnish another.

At the close of the season any patron that has taken more beef than he provided pays six cents per pound for it, and any providing more beef than he takes out of ring agrees to take six cents per pound for it.

Some families are not able to take a full share, and they are provided with a half share by pairing with someone else who is not able to handle a full share. They are, however, to receive but one delivery a week.

The hide, head and heart of beef belong to patron supplying it. The butcher is paid $3.50 for each and every animal slaughtered and delivered.

I feel safe in saying that after three years' trial nine out of ten are satisfied.

THE CARE AND MANAGEMENT OF SHEEP.

By A. W. Smith, Maple Lodge.

Under this heading I would like to say a few words. First, upon the selection of the flock. It matters very little what the breed may be, for in our glorious Canadian climate any breed that has thrived in other places will also do well here. So the breed selected, from which we take our flock, is simply a matter of taste, and the ability of the individual to bring out the best is seen in the animals he selects. If he fancies a black face, he will be more likely to succeed with them, or, if the long-wool breeds have a greater fascination for him, then his success will more likely be with them. For my own part, I think the Leicester the best sheep on earth, as a Yankee would express it, and breed them.

Uniformity. But, having decided on the breed he wishes to handle, there are a few rules of management the shepherd should have conspicuously before him, and from which he should not allow himself to drift—not in the least. And, standing out prominently above all others—after he has looked to the healthiness and robustness of his selection—is uniformity. I would nail that term high up, and in a most conspicuous place. For there is nothing in the management of sheep or of any other animal or commodity which has so much to do with profit or loss than uniformity. There is scarcely any farmer but knows the difficulty in making a bargain or sale of stock when a few culls or inferior animals have to be tacked on to the good ones in order to sell them at all, and what a drag they are to the good ones, and how much easier it would be to sell the good ones without the inferior ones. I have always believed it better to sell the good, even lots to the best advantage, and do the best possible with the poor ones by themselves, or, better still, get rid of the trash as quickly as possible, so that the loss on them will be as small as it can be, and then hold the good, even lots for profit. If the quality be good, and they are in condition and appearance taking to the eye, a practical result of good breeding and attention, then, with the highest price being paid, which he will surely get, he will have the deserved satisfaction of success.

How to Secure Uniformity. A few words as to how to secure this very desirable uniformity. First, the breeder must select his flock of ewes to that end, avoiding those that are under size or not strong and vigorous looking, and just as rigidly reject those that are abnormally large. Begin your uniformity with the size of your ewes, and let them be on the large size rather than the small, but alike as to size, strength of bone, quality of bone and general appearance, as far as possible. Having done this, you have made a good commencement, but only that, and nothing more. The next step, and a very important one, is the selection of a ram. He must be a good one, and pure, or practically pure-bred, and of the same breed as your ewe flock, unless you are going to cross for some special purpose, and do not intend to keep the progeny for use in your breeding flock. For some purposes the crossing of breeds answers well, but never for a breeding flock. The ram must conform with the ewes in type, and let him be evenly proportioned, and not abnormally developed in some parts of the body and equally deficient in others, but as good as you can get all around. There is one opinion I have with regard to a sire that I would like to mention specially. He should be good in the hind quarters when young, because the male animal develops the fore quarters with age more than the hind quarters. The only way you can keep your flock uniform and maintain a high excellence is by the constant use of a first-class ram. All your selection of ewes is for nothing if you use an inferior ram. I have heard many men say: "Oh, I have only grade ewes, you know, and just raise lambs for the butcher, and of course cannot afford to pay any more than a similar price for a ram." But I say he cannot afford to use anything else than a good one—the best available. Nowhere does the best blood and the best animal tell to better advantage than when taken to the block, and even in the days of greatest depression in farm products, the best has returned a profit to the producer. No effort or money should be spared in placing a good ram at the head of your flock, and when necessary replacing him with a better one if possible.

Care of the Flock. Then, having the breeding flock complete, comes the care of the flock in order to ensure the profit to which the farmer is entitled. Men have said to me when I urged, for humane reasons, the better care of their flocks: "Well, if I have to pamper and nurse my sheep to make them pay me, I will get out of the business, for I have no time to fool away with them, and there is not money enough in the business to pay for stuffing them all the year round," and I agree with them if the profit be measured by the present returns from their flocks.

I shall now draw a picture of how he probably had been treating his flocks. In the beginning of winter, and often a good while after winter had begun, the sheep were to be seen in the fields, either scraping the snow away from the ground, looking for a bite

of grass or a weed, or else huddled in a corner of the field anxiously looking for relief from the owner. This relief came after a long while, and the sheep were driven to the barnyard, when they were turned in among a lot of cattle and pigs and colts, perhaps, to be hooked or kicked or chased, and kept in constant terror—the sheep is a timid animal naturally—and all the time taking their chance of getting a bite to eat from among all the rest. While for shelter they perhaps had opening to the yard a small pen, with cracks and openings all the way up and down and around the walls, built, one could imagine, to let in the greatest number of drafts possible. The door just wide enough for two ewes heavy with lamb to wedge themselves solidly between the jambs, and inside, the ceiling so low that when you went into the pen you were doubled up so you looked enough unlike a human being to scare the sheep into a stampede for the door, which is always conducive to some dead lambs. After a while the lambs begin to come, a lot of weak ones among them, consequently a lot of dead ones, and for some reason the ewes did not seem to have much milk, and the wool on the older ones seemed to get kind of loose and a lot of it got rubbed off by the sheep trying to relieve themselves from the annoyance of the innumerable ticks and lice with which they were infested. In fact, he had not very good luck so far with either the ewes or lambs. Then he thought if the grass would only come, that might "freshen them up a bit," and as soon as the snow was gone they went to the fields where the grass was hoped to be, picked some stubs of last season's grass and a few early weeds, and refused the poor quality of straw at the stack or pen. Some more lambs died, and a few of the weakest of the old ewes dropped off. Then the farmer was quite sure sheep did not pay, and turned them on the road.

After a while he wet them in the creek or river, and a few days later cut some of the wool still remaining on them, leaving lots of tags around the neck and legs and belly, and taking several pieces of the skin with the wool.

After the harvest is off the sheep are taken from the road or a bare pasture which had all the stock of other kinds to eat the grass that grew on it, and turned into the stubble field ; and the man who attends to his sheep in the way described generally lets the burrs grow to maturity also. The sheep and lambs get the full benefit, of course. And after a while when a buyer comes along, he sees a few lambs with their wool twisted and contorted with burrs, the tails will probably be long also—we feel sure, and honestly so, too, that he cannot give near the top price for these lambs, and if he buys them at all these three or four little fellows will have to be kept out, as they are of no use to him in any case, and, besides, he cannot give quite as much for these ram lambs as if they were wethers, in fact, he is not anxious to buy them at any price. Then, convinced that there is no money in the flock, the cheapest kind of a ram he can get—no matter how mean—will do him, perhaps one of these same long-tailed ram lambs closely related to most of the ewes will do, and he can sell him to the butcher a little later.

The Best for Profit-making. But the object of this paper is to point out that this kind of profit need not fall to the lot of the intelligent shepherd. Beginning when the other man began—in the early winter, if you have a roughage on the pastures, or if a quantity of rape uneaten, sheep will do very well if an opportunity be given them to go under shelter in case of disagreeable weather, and if a little grain (only a little) be given them along with what they gather from under the snow. But in bad weather all sheep should have a chance to go under shelter. Then when taken to the sheds for winter, see that their shelter is good. It need not be expensive. It should have a good roof, and the east, west and north sides double boarded and tar-papered between, or otherwise made close, so no drafts can injure the sheep, for sheep can stand any amount of cold better than a drafty pen. The south side can be left open or with doors so wide as to be practically open, and have good-sized yards for the sheep to use exclusively, with no other stock to molest them, and try and have the racks arranged so as not to cover the backs of the sheep with chaff or dirt every time they are fed. It injures the value of the fleece. Then with plenty of pea-straw, which we can grow so abundantly in this province, a feed of clover hay once a day, and a few roots, which they should always have, or some other succulent food, sheep will require nothing more except salt and water, and a little regular attention, until they begin to lamb. Of course a little grain, say one-half pound per day each to the ewes, and double that amount to the lambs you are wintering will bring them through much stronger and in better flesh, and be more profitable as well, than they otherwise would be.

I need not point out the necessity of careful attention at lambing time, with the probable keeping of the lambs from young ewes having twins by giving the lambs a little milk in addition to that taken from the dam. There should be the most liberal feeding of the ewes after lambing. To have the lambs do the best—and it will pay you—a small pen should be arranged into which the lambs can go, but not the ewes, and in which a little ground grain and oil cake, if handy, is put a little at a time, and often, which the lambs very soon learn to eat readily, and will grow much faster than without it. If the lambs are intended for mutton be sure and castrate the rams while young. It is easier on them than later, and the tails also should be cut at about 14 or 15 days old.

Do not let the ewes get to the fields until there is grass enough for them to get a reasonably full bite, and dock them carefully before they go. Wash them thoroughly, if you wash them at all, and shear them carefully. How much more pleasing it is to see a flock of sheep neatly shorn than those with all the tags, and ragged and scarred with the shearers. Roll up the wool carefully and neatly, leaving out any tags and dirt, and you will be sure of the best prices.

About two weeks later dip every one of them, lambs and ewes, thoroughly in some good sheep dip. We use McDougal's. Do not miss any, for a very few ticks left will be sufficient to produce a full colony to annoy the sheep the next winter. About the middle of June have a piece of ground prepared, and sow it with rape, which will be ready for the lambs in August. It is really surprising how lambs will grow and get fat while feeding on the luxuriant growth you will have from that patch of rape. Three or four acres will feed thirty or forty lambs nicely, and with a good season far more. If you put the rape in drills, the same as roots, you can clean the ground thoroughly, and the droppings from the lambs will make a grand coating of manure. In connection with the rape you should always have a field of pasture for the lambs to run on. They do much better, and it prevents loss from bloating, scouring or other causes.

About September 1st I would recommend that you wash every lamb carefully with soft water and soap. It loosens out the tangles in the wool, adds luster to it, and adds 50 per cent. to the appearance of the lambs. I would not consider the washing so necessary with pure-bred Downs as with long wools or crosses.

Then about December 1st you will have a flock of lambs beautiful to look at, fat and heavy, for which you are sure to get the very highest price, and which a buyer will not leave with you if it is possible to buy them. And if you have given the lambs the attention of trimming them a little, and squaring their tails off neatly, and leave no burrs around the fences—attention requiring very little time—you will reap abundant satisfaction from the flock, as well as a substantial profit.

From the ewe flock all ewes too old to be profitable, and any that, from any causes, have dropped below your standard. If a ewe has failed to breed last season do not discard her on that account if you think well of her. She will probably bring you the best and strongest lambs you will have next year. Then breed them in October or November to the first-class ram you have already selected, and go on to renewed success and pleasure in your flock.

DISCUSSION.

Q. James Tolton, Walkerton : How do you feed your ewes in the winter time ?

A. Feed pea straw and hay at noon, pulped turnips twice a day ; in February, feed oats and bran.

Q. What time would you put sheep on rape ?

A. When ground is dry. Have a piece of other pasture to run on.

Q. What is the best tick destroyer ?

A. I use "Little's Tick Destroyer," and find it answers the purpose. Feeding sulphur in salt kills the ticks, but injures the lamb.

Q. When winter feeding, would you advise shearing ?

A. No, not unless you have a warm stable.

Q. Would you consider corn a good feed ?

A. All right to feed with oats ; peas are better. Bran is a good food to make milk.

Q. Give experience in feeding sheep.

A. Pea bran twice a day ; hay once a day ; breeding ewes should be fed two quarts of pulped turnips a day, grain once a day and oats and peas once. Lambs should have grain once a day. always.

Q. How many pounds of turnips should be fed to a sheep ?

A. Seven pounds a day.

Q. Have you ever been troubled with ring worm ?

A. Yes. Iodine will cure it.

Q. Andrew Elliott, Galt : At the present prices of lamb in the fall, will it pay to winter feed them ?

A. If it will pay farmers occupying very high-priced lands to buy your lambs and feed them, it will pay you.

Q. What is the most profitable kind of sheep ?

A. A dark-faced, medium-sized lamb finds a ready market at a slightly better price than a white-faced lamb.

Q. What is the particular benefit of keeping sheep, over other stock ?

A. First, they are easily obtained. Second, they do not require such close attention. Third, there are two returns per year, and those returns are quick and sure. Fourth, they are more easily handled and are quiet. Fifth, they require less expensive housing. Sixth, they keep the farm free of weeds and enrich the soil. "The foot of sheep is golden." Seventh, they can be marketed at any time. Eighth, their gain comes from feeding the less expensive products of the farm.

Q. Do you grow rape for sheep ?

A. Yes. For sheep, hogs and calves rape is invaluable.

Q. What is your ration for feeding lambs in winter ?

A. All the pulped turnips they will eat up clean, good clover hay, and mixture of oats, peas and bran—ten parts of oats, two of peas and five of bran.

Q. What ought to be the gain on lambs from November to April ?

A. An eighty-five pound lamb in November ought to weigh at least one hundred and forty by the end of April.

Q. Will it pay to keep lambs over until they are eighteen months or two years old ?

A. No. Lambs find the market at a much better price than when at an older age.

Q. Will it not be better to put lambs on young clover and pasture it ?

A. J. McEwing, Drayton : I think not.

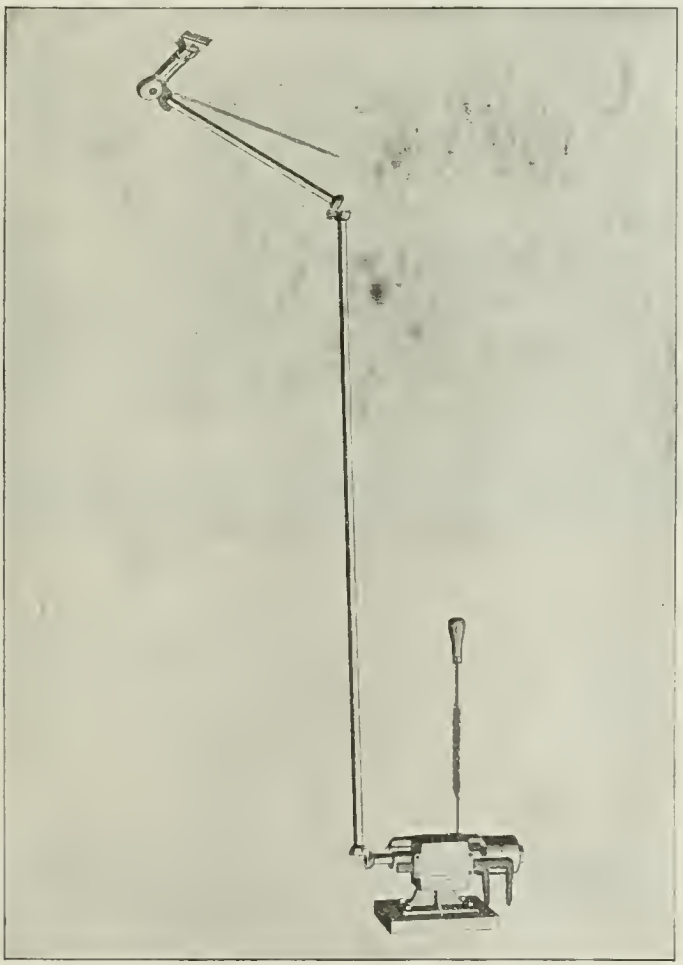
Q. Which is the best breed of sheep for a wet climate ?

A. R. S. Stevenson, Ancaster : I should prefer one of the short-wooled breeds.

Q. Is ensilage good food for sheep ? Which is the best, ensilage or turnips ?

A. T. H. Mason, Straffordville : Ensilage, along with bran, makes an excellent succulent food for sheep, but we have not found it equal to turnips.

W. C. Edwards, M.P. : That is my experience, especially for breeding animals, nothing equals roots for giving constitutional vigor and fine quality. I believe the English breeds of cattle and sheep largely owe their superiority to the abundant use of roots, and the superior character of their pastures.

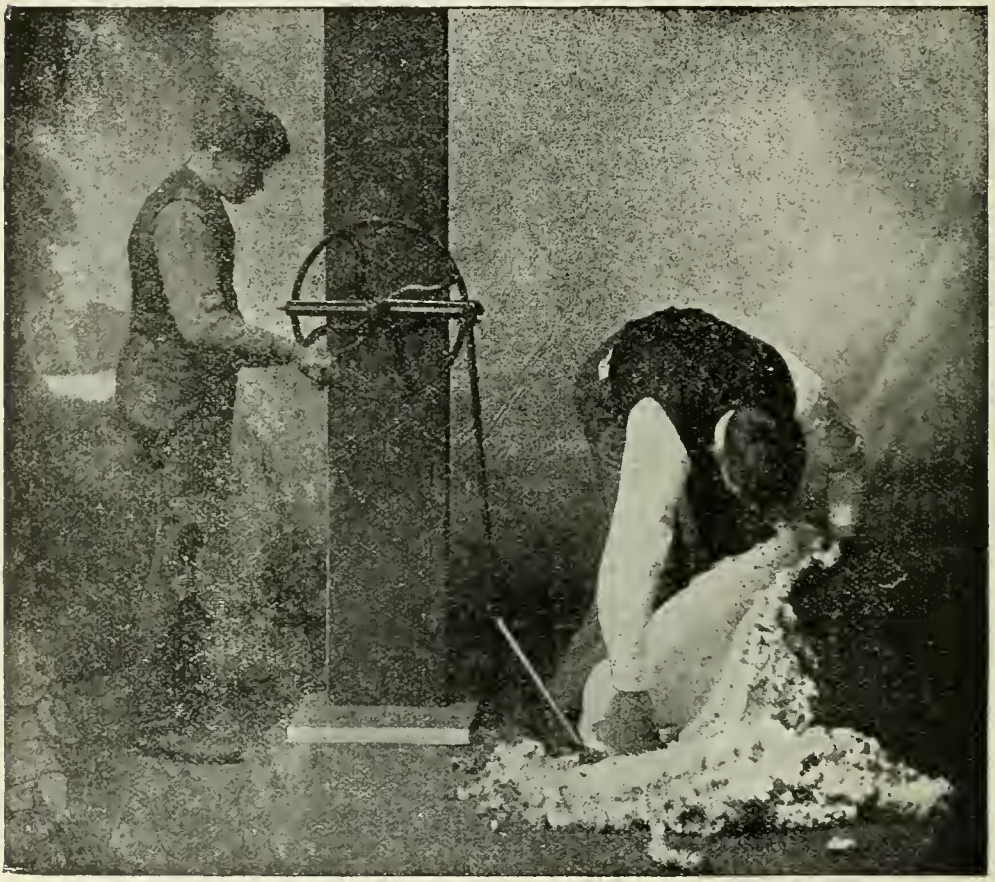


The Sheep-Shearing Machine

SHEARING SHEEP BY MACHINERY.

The accompanying photographs represent a Sheep Shearing Machine. This machine has been tried on more than one Canadian farm, and among others that of the Hon. John Dryden, Minister of Agriculture, Brooklin. Mr. Dryden says :—

"My Shropshire yearling rams are wooled from their feet to the point of the nose, and I had some doubt in my mind that your machine could possibly be useful in taking



THE SHEEP-SHEARING MACHINE IN OPERATION.

the wool from the legs and belly, where it is always more or less matted, on account of the sheep having lain in damp places. I found, to my amazement, that it took it off without a scratch and very rapidly. As to the body of the sheep, there was no difficulty whatever. Your machine saves wool, saves time, saves labor and saves the sheep, and I prophesy that it will soon be in general use all over the country."

THE DOMESTIC SHEEP.

By W. W. Cooper, Kippen.

The lines along which the breeding and general management of sheep are to be carried on are of necessity varied, according to the peculiarties afforded by the different kinds of soil, climate, and surroundings in general. The breed you are dealing with has also somewhat to do in modifying your plans and aspirations. Suitable environment, however, plays the greater part in the keeping of this class of domestic live stock successfully. Having the proper conditions it is yours, then, to breed really good animals, of whatever kind that might be, and having the animals and necessary conditions, adopt that system of management most suitable.

Ontario Adapted to the Sheep Industry. There is great room for the development of this important branch of industry, or animal husbandry, more especially is there room for it in our own country. In looking about us we find that we are possessed of the very best possible natural abilities for a country to have that would ever become successful in pursuing along these lines the improvement of live stock. It is pretty well conceded now that this country is destined to be one that will rank very high with the other countries of the world in the improvement of live stock. We must all believe that it will yet become remarkable in this respect. The breeding and keeping of sheep is but rudely developed as yet. If I remember the figures correctly there are only on an average about seven head of sheep kept per hundred acres of land in the Province of Ontario. Not more, I may say, than would properly do the work of scavenger in one field of the farm. Sheep make good scavengers, and are the means of keeping many foul weeds from becoming troublesome by nipping them off before they develop seed. We find, indeed, that they are a very useful regiment in our conflict and continual war with weeds. About 85 per cent. of the most common weeds are destroyed by sheep. In fact, I may go further, and say that it is strikingly noticeable that a sheep farm is a clean farm. Of course there are exceptions, and exceptionally tenacious weeds.

England has proven herself a good country in the improvement and development of many of the various breeds of sheep, and, notwithstanding many disadvantages to contend with that we have not, we find that most of the principal breeds originated there. At the present day they are to be found in their purest and best form in their native counties in England, Scotland and Wales. The old country is the home of the breeds, and thither breeders of our land and clime return for animals to lay foundation flocks. Importations are arriving annually, also, to replenish and build up flocks. Many diseases are to be found there that our climate will not allow to any great extent at least. This country has many superior advantages to those of Britain, conducive to an increased interest being taken in this department of the farm. Sections of country that are now cultivated in vain to grow wheat would be vastly more remunerative if used as a means for providing food for some kind of live stock.

The Breeder Should Have Some Definite End in View. Sheep breeders, like all other breeders, should at the outset have some definite aim in view. The breed should be chosen upon which he intends to work. It should be one he fancies he would like to handle, and one suited to his particular locality as well. It is a well-known fact that breeds not not do alike well in different parts. For instance, some of the heavier bodied breeds do well on a somewhat low lying or level tract of country, while those that are of a lighter carcass seem to flourish best on a more elevated or even mountainous part. It may be said just here that these peculiar requirements as to surroundings of the various breeds of sheep are no doubt due to the conditions under which they have been reared in their native homes. And more than that, in all probability these conditions had somewhat to do in establishing the distinguishing characteristics now peculiar to the breeds.

Select a Breed Suitable to Your Conditions. It is found invariably that those animals of the smaller type do the better on high rolling lands, as they can subsist on a more sparse pasture and are suited better to the much travelling required in search of food. Land more overgrown with thick, luxuriant pasture is better adapted to those breeds that carry a greater weight of carcass. The Leicester and Lincoln are adapted to these last-named conditions. We find in reading up the history of the different breeds that their natural habits of feeding, as to height above level of the sea is about as follows, viz., Leicester and Lincoln about 300 feet above; Oxford and Cotswold, 500 to 1,000 feet above; Shropshire and Hampshire, 1,000 to 2,000; Merinos would forage further up, while the Southdown and Black-faced Highland would range and flourish still higher.

Choose a Popular Breed. In selecting of a breed the husbandman should have one that he fancies he would like to work with. The locality will generally admit of choice in this respect to a certain extent. It is also well to choose a popular one, or better still one growing in popularity. This is very important, viz., to have an animal that is in good demand. More especially do we find it so in the keeping of a registered flock, when you find yourself having to depend for a market on the sale of animals for breeding purposes.

A man should be thoroughly competent before he undertakes the work of breeding. He should at least know something of the structure and anatomy of the animal with which he is dealing, and should be able to successfully treat common disorders met with in this line of farmyard stock.

Breed to an Ideal Type. Speaking now more particularly from a breeder's standpoint, it may be said that in the keeping of this class of animals, as with all others, the one engaged should always have an ideal specimen before him in his mind, a standard

to which he wishes to attain. Many aspirants have not this ideal before them and hence accomplish very little in the art of breeding. There are many who fail to attain in this direction, of course, there are others who are successful.

Buy Breeding Stock From Reliable Breeders Only. Selection and mating should now be judiciously followed to reach our object. Sires of the very best sort and type only should be used; gotten in every case from reliable breeders to ensure their ancestry and pedigree. His power to reproduce his like in his offspring is very important in making a choice of a sire. Good individual characteristics are also required. These are seen in the general formation of body, relation of the different parts, constitution, etc. The ram should be compactly built, and on the whole showing a stately, stylish appearance. In points in which the sire is weak the dam should be strong.

Keep Weeding Out. Ewes intended to be used in the flock must be only of the best, wisely selected for the object in view. The flock is now well established, and should be kept well weeded out, only the best representatives of the breed being retained. This system wisely followed for a number of years will tend to establish in a higher degree the uniformity of the flock. The poorer ones may be culled out and fed for the block. In no case are they to be retained or sold for breeding purposes. Scrubs will appear in the best of flocks at intervals, through freaks in breeding; consequently, one requires to be ever on the watch. Much can be accomplished in the successful management of sheep along these lines.

It is a matter of some importance to have your flock looking well at all times. Something can be done in this regard to add to their already good form, by dressing and trimming the wool from time to time. This remark applies more particularly to the Down breeds. A fine, smooth appearance is presented to the eye on the surface of back and sides. It is always to the advantage of a breeder to have his stock look well at all times and seasons of the year. A flock well kept is always to be preferred to one such as sis too often seen, showing the appearance of neglect. Sheep are very unsightly when not cared for properly, but when in a healthy condition and well looked after there are no other animals of the farmyard more worthy of your profound admiration.

Housing. Management as regards feeding and housing needs prompt and continued attention. Sheep require to be properly provided for in fall and winter months and at all times when the weather is unsuitable for them remaining in the fields. Hence the necessity of providing good places of shelter. Good, comfortable, roomy sheds or stabling must be provided. These need not be expensive, but should be neat and tidy. The place where they stand should, if possible, be somewhat elevated, and be made dry by good drainage. A commodious open yard should be attached to their houses in every case to allow exercise. Exercise as opposed to over much confinement is indispensable in the successful carrying on of the sheep industry. It is not necessary, nor is it wise, that their houses should be overwarm. Frame buildings made close, so as to exclude all draughts, is about all that is necessary. Have plenty of windows for sunlight, and good ventilation over head. Feeding racks are to be placed in the inside department, and may be so arranged as to suit the pen.

Dogs. Sheep require to be looked at and gone among constantly. It is the shepherd's duty to do this daily. The dog nuisance is a serious drawback to the business of keeping sheep profitably. Loose dog laws may be mentioned as one of the chief causes why so many farmers fail to thrive in the rearing and keeping of sheep. Legislation against dogs must be made more stringent than at present time before sheep raising will be adopted very generally over the province. The master of the flock, in such goodly work, ought to be protected better than he is. We are indebted, however, to our able farmer Minister of Agriculture, Hon. John Dryden, for the measure of protection against dogs that we now have.

Shade. Shade and abundance of pure water should be easily accessible in hot summer months. Often they are glad to get possession of the front of an open woods for shade. The ground being shaded at all times is cooler, and hence more agreeable to them. Salt, also, must not be denied them.

Feeding. Feeding of sheep is important. They respond quite as readily to liberal feeding as any other class of live stock. The farmer should not neglect one thing more than another. "What is worth doing is worth doing well." Feed regularly and liberally, as it is more economical and produces a good deal better wool fibre. Bad and slack feeding in winter months has an exceedingly evil effect upon the wool and produces what is known as "break" in the wool. While feeding they should not be molested by stronger animals in the yard. Always give a separate apartment. Clover hay well cured would form the basis of a ration "urnips in abundance. Straw

and pea crop may also be used as an adjunct. In case of ewes kept for breeding some mixture of should be given. This, of course, is winter feeding. Roots may be given, although opinions of experienced men differ somewhat as to the wisdom of this course. To my mind it is a good practice, at least we have never had and serious results. Excessive quantities, however, are not to be fed. Roots provide water to the system in its best form. A good, all-round grain ration for sheep is as follows, viz., oats, peas, beans in the proportions of 3 lbs. of former to 2 lbs. of one of the latter, respectively. Grain should be fed unground to sheep. Whole peas and oats is a well-balanced ration for sheep.

SWINE BREEDING, FEEDING AND MARKETING.

By F. W. Hodson, Ottawa.

In securing date from this subject, I have drawn not only from my own observation and experience but from every other reliable source within my reach, including several experienced breeders and packers. In this respect I am specially indebted to Mr. Geo. E. Day, Professor of Agriculture at the Ontario Agricultural College, Guelph, to Mr. J. W. Flavelle of the Wm. Davies Co., Toronto, and to Mr. C. C. L. Wilson, of the Ingersoll Packing Co., Ingersoll, Ont.

For more than a decade the production of the right sort of pig has received a good deal of attention in Ontario, and in the East and West he is also being considered. The export bacon trade and the home consumption has steadily increased, until now the curing of prime bacon has become one of our great national enterprises.

Our Markets. The business man who has an article to sell, or who expects in the future to have, will, if he is wise, carefully consult the consumers' requirements.

For our pork products we have :—

(1) The home market for fresh pork.
(2) The home market for hams and bacon.
(3) The lumber woods and mines.
(4) The export trade.

Fresh Pork Products. For the first the demand is very insignificant; the spare rib, sausage and tenderloin, all known as offal, find a f air market from Sarnia eastward. What little is consumed must be lean, and is mostly from light porkers, weighing dressed from 80 to 110 lbs. Occasionally when these are in short supply the backs from heavier hogs are used, but in the use of these the fat must be stripped off the back so as to give lean roasts or lean chops. In the Province of Quebec more fresh pork is eaten and large quantities of shoulders are cut up in the markets and sold fresh.

Hams and Bacon at Home. The city and town bacon and ham trade calls for lean meat, not to thick. There is in some country districts, and with an odd customer in the city and town, still a demand for stout bacon, but over 90 per cent. of the trade calls for meat which has been described as "streaked," meaning that the fat is full of lean. The choice bacon hog lends itself to this strade.

It is to a great extent the fresh pork trade in Chicago, Detroit, Cincinnatti, Louisville, Buffalo, New York and other cities that maintain the price for hogs on the American side. We have not the population in Canada, therefore our packers ship considerable quantities of offal to the United States, and after paying two cents per lb. duty, and express charges, they still realize a higher price than can be obtained in Canada.

In Canada the consumption of bacon and hams is rapidly increasing, but the demand is for mild cured lean, nicely marbled flesh, just the goods required by the best English trade.

The Lumber and Mining Camps. The lumber and mining camps will buy and use fatter meat than any of our other markets, but even here there is a growing demand for lighter and leaner goods—both as long clears and barrelled pork.

Recently a Canadian packing house had a large stock of Long Clears, running from 25 to 50 lb. average. A great deal of this went to the lumber camps, and gave satisfaction. A provision dealer in Toronto told the writer only a short time ago that on account of this light bacon having gone to the lumbermen, they now wanted nothing else in many cases, as it suited their requirements exactly. The big, heavy fat sides, that formerly found a ready market in the lumber camps are in some cases not wanted. Now dealers say it is hard work to make sale of these heavy sides, they must be sold at very low price to get rid of them. The lumber camps use a great deal of Mess Pork, which as a rule they buy in the United States, as it can generally be bought there for less than Canadian packers can afford to put it up, and this pork can be carried for many months much better than Long Clears; so, we suppose there will

always be more or less of that cut wanted. Lumber shanties, the French population in Lower Quebec, and the fishermen down by the sea, still call for a considerable quantity of fat meats. This trade, however, will gradualy diminish, is indeed getting smaller every year.

The Province of British Columbia is an important buyer of hog products, calling altogether for product from sizeable hogs with plenty of lean in it. An important portion of the requirements of that province is supplied from the United States, although our meats are much preferred. This because the price in Canada is often too high. Curers in the United States, either on the Pacific Coast or at points fairly well west, are able to name prices which put the Eastern Canadian curers out of the market. This accounts for the important figures in the trade and navigation returns of import of hog products into British Columbia.

The French trade in Montreal, which uses a very considerable portion of fresh pork, as well as the large sausage trade in that city, results in quite an important market there for heavy, rough stock.

The Export Trade. The Canadian export trade is almost entirely in lean, mild-cured sides, known as Wiltshires. To produce this brand the packers require a long, deep, smooth pig, possessing a light head and shoulder and even back, not too broad, but well covered with firm flesh, not fat; at the same time, he must not be a razor-back. The sides from ham to back of shoulder must be long and deep; the underline straight and free from flabbiness; the ham smooth and tapering, with the greatest amount of flesh on the outside. The pig must stand on strong (not coarse), well-set legs and feet, and he must be healthy, vigorous and a good feeder, and weigh, when ready for market, from 175 to 200 lbs.; the great bulk should run from 180 to 190. We find this is the style of pig required by both our home and foreign markets.

Though the greatest care may be taken by both our feeders and breeders to produce just what the market requires in the way of lean singers, there will always be enough of the heavy fat type to more than fill all demands.

What to Do With the Old Sows and Stags. The aged sows and stags must be disposed of. To do this to the best advantage they should be made as fat as possible; their chief value is for lard, and unless they are made very fat they are of little value to the packers They are used in the following way according to condition: If very rough and coarse the meat of the sow is used for sausage; if smooth and fat the middles are put into pork in barrels and the shoulders into sausage. Rough or moderately rough stags are put into the tank and cooked for grease; smooth stags of good quality are used in sausages. Sometimes Buffalo and sometimes Montreal affords a fair market for pigs of this class.

Judging Bacon Hogs. We now come to a very important matter, that of judging swine of bacon type. It is, perhaps, too much to expect that there will ever be entire unanimity of opinion among judges, yet it is something greatly to be desired, and all effort should be made to come as near to this desired end as possible. The main difficulty in judging seems to arise from the fact that judges differ regarding the relative importance of the various parts of an animal. They may be in entire accord as to what constitutes a perfect bacon hog, but, unfortunately, perfect animals are scarce, and it is in the attempt to balance one defect against another that differences in judgment frequently occur. It would seem reasonable, therefore, to assume that some authoritative standard of excellence and scale of points would be helpful in bringing about hereafter uniformity in judging.

There exists in the minds of some people a very strong prejudice against a scale of points, yet no judge worthy of the name even makes awards in a show ring without a standard of excellence and scale of points in his mind. That is, he has his own ideas as to what constitutes perfection in the various parts of an animal, and he has also his own ideas as to the relative importance of these various parts. Without these things he cannot judge, for he has no basis upon which to make awards. The actual use of a score card in a show ring is to be condemned.

Scoring animals is a useful practice for the student, training him to notice all points of the animal, forcing him to make up his mind whether defects are serious or otherwise, and guiding him as to the relative importance of parts, but all this should be learned before he attempts to act as judge.

The scale of points, then, is merely a means towards an end. It is an aid to judgment, but cannot take the place of judgment. It can serve merely as a general guide to judges, and, properly used, will aid in securing uniformity.

The Bacon Hog v. The Fatter Types.

Many intelligent men still insist that it costs more to produce the bacon hog than it does to produce the fatter types. This claim has gone unchallenged for so long a time that it seems to be generally accepted as a just one, and yet, when we come to

investigate we are struck by the remarkable dearth of evidence in its support. In a recent experiment at the O. A. C., Guelph, the group which evinced the most desirable characteristics from a packer's standpoint, was first out of six in point of economy of gains. The group scored second by the packer was fourth in economy; while the group scored third by the packer was second in economy of gain. No doubt it requires more careful selection and skilfull feeding to produce the bacon hog, but it has never been proved that the bacon hog necessarily requires more food to produce a pound of gain than is required by other types. The bacon hog is born, not made. Food can modify but it cannot overcome individuality; and the foundation of our bacon industry rests upon judicious selection and mating of breeding stock.

Canadian vs. American Trade. The Canadian packer is catering to a special market. The American export trade in pork products differs very materially from the Canadian trade, and hence the requirements of the Canadian packer are very different from those of the American packer. Canadian packers generally pay a higher price for hogs than American packers, owing to the fact that they cater to different markets, the logical conclusion being that it will pay the Canadian farmer to make an effort to retain our distinctly Canadian trade and keep out of competition as far as possible with the American farmer.

The American hog is much thicker and fatter than the ideal singer. Canadians are not able to compete with the Americans in the production of this type of hog. He is grown very cheaply and with little labor in the great corn belts to the South and West. If we were forced to come into competition with the American swine grower we would be compelled to go out of the business. Speaking in a general way Americans are not likely to produce the lean singer. He couldn't be produced on the corn belts of the South and West under existing conditions. In view of these facts it is desirable that all pigs grown in Canada be of the bacon type. It is true that we require a certain quantity of long clears and mess p ork, but the demand is limited. The whole of our foreign and home trade could be supplied by hogs of the bacon type marketed at the different stages of growth. If every farmer in Canada aimed to produce the bacon hog there would still be a sufficient number of pigs of unsuitable type and weight to supply the demand for the other class of goods.

Interests of Farmer and Packer Identical. It is to the interest of the Canadian farmers that packers be supplied with the pig best suited for their purpose. First class goods mean a growing market at home and abroad; anything else means a stationary or receding market. At the present time 25 per cent. of the pigs marketed in Canada are what is known as "softs and bruised," 25 per cent. are fats, and at least 10 per cent. unsizables. Or in other words 60 per cent. of Canadian pigs grade as No. 2 or lower, which is 40 per cent. more than might be expected if breeding and feeding were carefully done.

Canadian farmers lost at least 20 cents per hundred on all pigs sold because of this condition, packers fixing their buying prices according to their average receipts from sales. The man who insists on breeding the wrong type not only loses 20 cents per hundred but he causes his neighbor to do so as well; not only this but he injures the home and foreign trade. Therefore, it is to the interest of every citizen that the right sort of pigs be bred on every Canadian farm, and that they be properly fed. Pigs of the wrong type cannot be made good by any kind of feeding, yet bad feeding will spoil a good pig. A loss of 20 cents per hundred on all pigs sold to packers would make a total loss to the farmers of Canada last year of over $500,000. When No. 1 are selling for five cents and lower grades for four cents live weight and 60 per cent. ranks second and lower, the average price paid by drovers would be $4.40; if 60 per cent. were No. 1 and 40 per cent. No. 2 the average would be $4.60; if 80 per cent. are No. 1 and 20 per cent. No. 2 and lower, the average price would be $4.80; a difference between the first and last calculation of 40 cents per hundred; not much if calculated on the value of a few pigs, but an enormous sum when applied to the yearly output.

Pork Exports from Canada—1890.

The following were the Canadian exports in 1890 :—

	Lbs.
Bacon	7,235,336
Lard	82,434
Hams	256,746
Pork	238,899
	7,812,415
Amount consumed in Canada	2,604,472
Total	10,417,887

Ten Years Later. Exports for the year ending March 31st, 1900: About 1,300,000 hogs made into export bacon, almost the entire product of these hogs in lard (about 13,000,000 lbs.) was sold in Canada. In addition to this the product of about 350,000 hogs was sold in Canada by various curers, large and small, from Halifax to Victoria. This estimate does not include, of course, hogs slaughtered and cured by farmers for their own use, hut does include hogs slaughtered by farmers and sold on the market by various curers. I estimate that these 350,000 hogs made about 42,000,000 lbs. of product, which with the 13,000,000 lbs. of lard sold out of the exports hogs would represent about 55,000,00 lbs. of product made by Canadian curers for the Canadian trade. It is estimated that the product exported from the 1,300,000 hogs referred to is about 130,000,000 lbs. Total product sold in Canadian and foreign markets for year ending March 31st, 1900, 185,000,000 lbs.

Must Look to the East. The Province of Ontario has been the chief exporter—the time has come when we may expect to see a change in this respect. Much of Quebec, Nova Scotia, New Brunswick and Prince Edward Island is admirably adapted to dairying—a branch of farming which is rapidly extending and likely to extend from Montreal eastward—as well as in Ontario. The Eastern dairy districts of Ontario produce the class of hog from which the finest Wiltshire bacon is made. In these district hogs are put on the market at as low cost per pound as in any other section of Canada. General dairying and hog growing should go together, neither will reach its highest profit paying condition without the other. The Eastern and Northern sections of Ontario produce a better class of hog than the fertile corn belts of Western Ontario, in other words the section of Ontario which more nearly resembles Quebec and Eastern Canada in climate and grain products produces the best class of Canadian bacon. In some respects these provinces are better suited than Ontario for the development of this industry. Land is generally cheaper, surer pasturage, better roots, crops are surer and yield more abundantly. These conditions are necessary in order to develop the industry in Quebec and the Maritime Provinces, especially in the latter, viz:

1st. An abundance of coarse grains which by attention to agriculture can be profitably produced.

2nd. The establishment of packing companies (or the extension of those already established) which will fully meet the requirements of the best markets both at home and abroad.

DISCUSSION.

In answer to a question Mr. Hodson said:—

"Our people everywhere are demanding a lean, firm meat, not thin meat, but with plenty of tender muscle. Blubbery fat does not sell well in pork. Such carcasses are rendered into tallow.

A young pig's back should, as a general thing, be quite arched, because we want a pig with a slight arch at killing time and he will straighten out as he grows older.

A pig with a wrinkled skin usually has a thick hide which indicates a poor carcase beneath.

A pig forced from birth by heavy feeding is a very poor article for the market.

Old sows and stags should be very fat to sell well; their value is for lard.

The best bacon feed is potatoes, milk, oats and barley. The potatoes should be cooked. Other foods can be pulped and fed raw; mangels and sugar beets may be fed whole.

He believed that the Maritime Provinces had as good natural facilities as any part of the American continent for raising a fine quality of hogs.

As soon as these three provinces agree to put up 500 pigs per week suitable for export bacon, one of the best packing houses in Canada is prepared to open a branch here.

Q. What kind of roots do you feed ?

Mr. Hodson—Swede turnips.

Q. Did you ever hed your pigs with buckwheat straw ?

A. Yes, and never had any injurious results.

Q. How do you feed grain to pigs ?

A. Feed the roots pulped and the grain over them instead of mixing it with water. Aim by your feeding to teach your pigs and dairy heifers to grow lean meat. A good grain mixture is two-third oats and one-third peas, ground fine, and fed with roots or milk. When you feed potatoes boil them. Wheat bran is as good a feed for pigs as shorts pound for pound. 3 lbs. of skim milk per day per pig is the most profitable quantity that can be fed.

Q. How long do you leave the pigs with the sow ?

A. I generally let the pigs suckle the sow till 12 weeks old.

Q. Why do pigs go lame ?

A. Lame pigs are usually caused by wet pens and heavy feeding. Have a dry place always for a pig to sleep. In pasturing pigs always have a light moveable house for them and have a floor in it for them.

Q. What is the best breed for bacon ?

A. Well, t here is not, perhaps, any best breed. As far as I am concerned personally, I get a better back and better belly from Yorkshires and York grades with less brain work than from any other breed.

The Tamworth-Berkshire cross is often a very satisfactory pig. There are fewer soft sides among Berks than any other breed, but they are lighter in the belly and heavy in the back.

Yorkshires are subject to soft sides apparently more than Tamworths and Berks.

There is not one of the American breeds fit for the English bacon trade.

Q. Are not the Tamworth and Yorkshire the best breeds ?

A. Probably so.

Q. What is the Berk-York cross like ?

A. Very good.

Q. At what age may sows be bred ?

A. We couple them at 8 months and continue breeding them until they are 12 or 14 years old.

Q. How would cornmeal, potatoes and milk do for feed?

A. Very well, except that it would not do to use too much corn.

Q. Can pigs be fed without milk?

A. When no milk is available, roots and shorts, with the shorts mixed with water to make a drink, make a good combination.

Flax seed boiled is a good food to mix with other grain food, especially for young pigs.

Q. What about summer feeding?

A. Mr. Hodson : We pasture on clover early, then we sow oats and tares, 1½ acres of each; we never mix them. According to the crop this will carry from 50 to 60 pigs. They must be furnished with some grain additional. Hairy vetch is the best variety of tare with me. Change the grain feed from time to time and get all the milk for them you can.

In summer pasturing, pigs require good housing. Some movable, light houses were best. He showed on a chart his plan of a movable pen 6 x 10 or 8 x 10 feet and with a peak about 8 feet high.

In sowing tare use 1 1-2 bus. for an acre and with rape use 4 lbs. seed in drills 22 inches apart.

Q. What is the advantage of a floor in the summer pig house ?

A. To keep the pigs dry. They will get rheumatism lying upon the ground.

Q. What fences do you use ?

A. Rail fences, three feet high.

Q. Do you lose many of your pigs at farrowing by sows lying on them ?

A. No, we do not. We have a specially prepared farrowing pen with a rail 6 to 8 inches from floor; all round and out six inches from side of pen. In the winter breeding stock are kept in the movable pens which are used in summer and they have the run of the manure heaps.

Q. How old should a boar be before breeding ?

A. Six to eight months at least; I like them older.

Q. How about sows ?

A. My experience is that sows six to ten years old are the best breeders.

Q. Is not rape a bad seed to get into the land?

A. No. You must sow Dwarf Essex rape, not German rape. The latter is very bad.

Q. How do you water the pigs ?

A. We have a barrel with a drinking fountain and haul it right to the pasture each morning.

SOME POINTS IN BREEDING AND FEEDING SWINE.

By G. E. Day, O. A. C., Guelph.

Following are extracts from an address given before the Manitoba Swine Breeders' Association :—

The packers have their troubles as well as the farmers. One of their chief difficulties is to procure a regular supply of good bacon hogs. The reason for this is that when prices are high, every farmer goes in for hogs, raises all he can feed, and prices go down. Then every one wants to sell out. If you would make a success of the hog business you must stay right with it through good and bad times. When hogs are down is the time to buy good stock, to rigidly cull the herd, saving only the best, and then to increase the herd in readiness for the next rise in price. I would urge young breeders to watch two things in breeding and feeding swine—to have an ideal type, and then to feed the right food.

An Ideal Type. In visiting many herds and flocks I have been most strongly impressed with the fact that there is no uniformity of type in them. Each man has all sorts of types and kinds in his herd or flock. The result is that they breed up a flock or herd that will never be of any use in the country. Each young breeder, and old one too, for that matter, must find out what is the right type; then set this up as an ideal and work to it. You cannot reach your ideal at once. It may take ten, fifteen, twenty or even forty years to do so, and perhaps you may never reach it, but keep it ever before you, never lose sight of it for an instant, nor let anything else drive it away. You will find that the man who makes a success of breeding is the one who sticks to his ideal with, as it were, a bulldog tenacity, and though he may not become famous, he will at least make a name for himself in his sphere of life. I would emphasize the importance of getting the right type fixed in one's mind as an ideal. There is a type of hog that gives the best bacon, and if the production of bacon hogs is the ideal a man has set up for himself, then he should get as near to the ideal type as possible. Some breeds of hogs come much nearer that type than others.

In judging of the length of a hog it is not enough that he should be long from the nose to the tail, but it is of special importance that he should be long between shoulder and ham.

I have heard some people say that it costs more to produce the bacon type of hog than the fat kind. I want to give you this for your encouragement—it has never been proved that it does cost more. Our experiments show very conclusively that it does not necessarily cost more to produce a pound of gain in a good bacon hog than in a fat hog, and that a good bacon hog is an economical producer.

The Right Kind of Feed. In Ontario a great deal has been said and written about soft bacon, and we have done a large amount of feeding with various kinds of hogs and feeds, to find out, if possible, the cause of it. Now, soft bacon is bacon in which the fat is soft. You can press your finger into it quite easily after it is cured. We find that when corn is fed to young hogs through the growing period and continued to finish them, the bacon is very unsatisfactory; also when fed as half the ration and three-quarters of the ration, corn is decidedly bad. When young animals are fed growing foods until they weigh 100 lbs. or more, and then finished on corn, the results are not so bad. We believe it best to use corn only in small quantities. The Danes have proved this and have gone back to barley (along with dairy by-products) as their best grain for producing superior bacon. Hogs fed on dairy products, skim milk and buttermilk, along with barley or mixed grain and middlings, always turn out splendidly as regards firmness.

Feeding Roots. We believe the value of feeding roots to hogs in winter is overestimated sometimes. They won't do everything. In our experiments we found that about six pounds of roots were equal to one pound of mixed grain. This is very similar to the results obtained in Denmark, where 6 to 8 lbs. of roots were found to equal in feeding value one pound of mixed grain. We have found roots very valuable in feeding, not so much because they are an economical food, but because they kept the hogs in good thrift and prevented young pigs getting too fat. Hogs seem to need some bulky food, and the roots answer this purpose. We think roots are excellent to mix with ground wheat, and find nothing better for young pigs than finely ground oats and shorts or middlings. Other grains are introduced as the pigs grow older, as we do not find oats an economical food for fattening.

DISCUSSION.

Q. Do you feed wet or dry ?

A. Prof. G. E. Day : As a rule we feed our grain dry, but we have found little difference. When we feed pulped roots we put the meal on them.

Q. James Bray. Have you any experience with a self feeder ?

A. Prof. Grisdale : We have tried it, and though the pigs did well we did not find it quite so economical as the usual method of feeding. If you take work into consideration it is perhaps a saving.

Q. Mr. Cluff. How long have you to feed a hog grain, after he has been on grass, before the flesh will make firm bacon ?

A. Prof. Grisdale : I have been experimenting with this, and we have had pigs off grass feed, one, two, three, four and five weeks. At one week the pork was soft, at two weeks good and better still at three weeks.

Q. Have you ever experimented with the different breeds of bacon hogs ?

A. Prof Day : I have tested six lots of six different breeds for five years, and find that at the packing houses the Yorkshires have made the highest scores, the Tamworths came a close second, followed by the Berkshires. You can, however, breed Berkshires and make good bacon hogs of them, but you must stretch them. In regard to the cost of a pound of gain the Berkshires best the Yorkshires and Tamworths.

Q. What is your experience with artichokes for hogs ?

A. J. E. Brethour, Burford : I have found artichokes to be the most satisfactory vegetable food that I have ever grown. They can be grown with very little trouble, and are without doubt most healthful food. We allow the pigs to dig them themselves and they have a great relish for them. I would not like to say that they prevent hog cholera, but I do believe they would have a tendency to ward off an attack of this disease, and, in fact, many other diseases to which pigs are subject. The exercise they receive in seeking for the artichokes is in itself healthful for them. The pigs grow rapidly when fed upon them, and they have a tendency to produce lean meat. I would not consider it desirable to feed on artichokes alone, but they should be fed in conjunction with a moderate grain ration. One great advantage with artichokes is that they can be fed in the spring of the year at a season when other vegetable food is not available. The winter frost does not injure the tubers when left in the ground. In a suitable soil they will give a very large crop, running from 600 to 1,000 bushels per acre. The system of cultivation I have followed is similar to that given potatoes, planting in rows eighteen inches apart, and the rows thirty inches apart. The most suitable soil for their growth would be a sandy loam, but I believe they will grow well on any soil.

Q. What are the best breeds of hogs for bacon ?

A. Prof. G. E. Day, Guelph : Experiments at the Ont. Ag. College indicates pretty clearly that, of the pure breeds, the Yorkshire and Tamworth give the best results.

Q. Is it advisable to push pigs fast, so as to have them ready for market at five and six months of age ?

A. William Rennie, Toronto : I believe in moderate feeding; feed largely on roots, shorts, dairy slops and a little mixed grain. Never over feed, and give them plenty of exercise. In summer give them a clover pasture, and in winter roots. If you have them up to 200 lbs. at eight or nine months you have done well enough.

Q. Is there any money in feeding whole grain to hogs ?

A. F. A. Sheppard, Queenston : I think not.

Q. Is there any profit in boiling roots in summer?

A. No. Raw roots give just as good results.

Q. In winter feeding to what extent and how is it profitable to use clover hay ?

A. R. Twiss, Woodburn : The clover should be cut early when in bloom. put up in coils, so that it may not have too much sun, and put in the barn when it is still quite green. Use plenty of salt. Cut in cutting box as fine as possible, put in water-tight box and cover with water and let it stand for 24 hours. Mix chopped grain with it thoroughly before feeding. Brood sows can be kept with this treatment with profit.

Q. What breed do you find satisfactory to yourself and market ?

A. I have found a cross of Tamworth and Berkshire very satisfactory; also Berkshire and Yorkshire is very good by always breeding from a pure bred sire.

Q. What is the best treatment for cows before and after farrowing ?

A. Plenty of outdoor exercise until one week before farrowing, then shut up in a pen, so as to have them used to it. Treat them very kindly. It is best to have only one attendant.

Q. What age do you think best for weaning young pigs ?

A. At between seven and eight weeks old. Commencing at five weeks old a good way to teach them is to have them feed in a place part from the mother, and the change from one kind of food to the other is so gradual the young animals will never mind it when they are taken from the mother. A good plan is to turn the mother out of the pen for two or three nights before weaning, leaving her with them all day. They should have shorts and skim milk for some time after weaning.

Q. Which are the best breeds of bacon hogs ?

A. W. C. Shearer, Bright : The Yorkshire, Tamworth and some of the lengthy Berkshires, but a good bacon hog can be produced by crossing any lengthy sow with a Yorkshire or Tamworth boar.

Q. At what age do you prefer to wean pigs ?

A. I like to have them eight or nine weeks old and able to eat and drink well before weaning. In that way they do not receive any set-back.

Q. At what age do you have your pigs weigh 200 lbs.?

A. I generally make them go 200 lbs. when from six to seven months old.

Q. Is there any profit in feeding whole grain to hogs ?

A. No. It pays to grind all grain.

Q. Where do you have your pigs sleep—in elevated sleeping pens or on plank floor ?

A. Have had no experience with elevated pens. The suggestion was made that pigs when fat, might not go up into these.

Q. How would you manage the brood sow in winter ?

A. T. G. Raynor, Rosehall : Give her plenty of exercise. Feed her on kitchen slops, and by-products of the dairy, with bone and muscle forming foods.

Q. How would you wean pigs ?

A. (1) By removing two or three of the best pigs at a time. (2) By taking pigs off for 12 hours a day or two at a time. (3) By feeding sow sparingly and on milk drying food. (4) Would turn sow out and let her in occasionally last day or so.

Q. What will take the place of milk or whey ?

A. Pulped roots is best substitute.

Q. What are some of the best foods to start young pigs on ?

A. Mr. Slater : Skim milk or buttermilk and shorts with some roots, and lots of sunshine in winter.

Q. Do you feed your pigs by weight or measure ?

A. Boiled barley with roots, 1 1-2 bushel, 1 bushel barley, and a pail of bran in proportion of mixture.

Q. Do you consider a stone or concrete floor preferable to wood ?

A. T. G. Raynor : Yes, leaving out the cost of construction.

Q. What breed of hogs stands highest in the public estimation ?

A. Yorkshire is preferable for bacon.

Q. Is it a sure guarantee against stiffness in hogs on concrete floors to have elevated sleeping berths ?

A. No, it is not. Improper feeding whereby the hog becomes constipated is a fruitful cause.

Q. Should hogs have access to clay in winter ?

A. Yes, they must have clay or some substitute as, old mortar, sods, decayed wood, ashes or charcoal.

Q. At what time would you wean pigs ?

A. From six to eight weeks of age.

Q. Is it profitable to feed pigs in the winter without dairy slops ?

A. Yes, at present prices. Pulped roots will take the place of milk to some extent.

Q. What is the value of roots in feeding them to pigs ?

A. Besides a direct benefit from nutrition, they act as a tonic to keep pigs in a good, healthy condition.

Q. What is the cause of pigs becoming crippled ?

A. Two causes; first, from rheumatism due to damp, draughty pens; second, and most fertile cause, is indigestion, the result of wrong feeding and a lack of succulency in foods, and want of exercise.

Q. What is the best breed or breeds of pigs to suit not only the farmer as a producer, but also to meet the demands of the export trade.

A. T. H. Mason, Straffordville : Practically, there are but three breeds to-day to meet the demand, Yorkshire, Tamworth and Berkshire, although selected sows of some of the other breeds crossed with Yorkshires or Tamworths give fairly good results. The greatest measure of success will be obtained though by the three breeds mentioned. Perhaps the most satisfactory results for the ordinary farmer have been obtained by a first cross of Yorkshire or Tamworth on a Berkshire; the Berks specially selected for constitution and length, as some of them are deficient in length.

Q. We are troubled during the winter months with our hogs getting lame and scurvied. Is this caused by black teeth ?

A. I do not think so; while I would not like to be too positive, I am more inclined to think that black teeth are more a symptom of disease than a disease. Have dry beds, change bedding often, give earth or sods daily. Many good pig feeders put away sods for this purpose. Plenty of light is also essential. Then whenever the weather is at all mild let them out, so they can get plenty of exercise and get at the earth. Wood ashes with plenty of charcoal is also an excellent thing for hogs in pens.

Q. Our hog buyers here will not pay any more for the bacon hogs you describe than they will for the short, fat stuff for the local local, and we can produce the short fat type cheaper than we can the bacon hog.

A. Of course the expert packing houses are centered largely in Western Ontario; still, if you produced largely of the bacon type, the probabilities are that you would get an increased price. The short fat hogs are not produced cheaper than the long bacon hogs. This has been proven by repeated experiments both in Canada and the United States.

Q. Do you cook your hog feed ?

A. Major Sheppard, Queenston : No, food dry, except in some particular cases.

Q. Do you keep your pigs shut up close ?

A. No, never keep them shut up.

A. James Tolton, Walkerton : This may seem a little delicate to answer, but it

Q. What is the best breed of hogs for bacon ?

Guelph the Improved Yorkshire, Tamworths and Berkshires are the three best breeds, and a cross between a Berkshire and a Tamworth is as good as any pure breds.

Q. What does it cost to produce a bacon hog ?

A. A difficult question to answer; if fed judiciously, it can be done for 3c per lb.

Q. Would you advise feeding hogs roots in the winter ?

A. Yes. They need a varied diet, and roots are essential in winter, and grass and other herbage and leguminous plants in summer.

Q. Can you raise a pig profitably without skim milk ?

A. Yes.

Q. Can you give a reason for pigs stiffening up in the limbs, more particularly in the winter season.

A. Mainly from judicious feeding; too much sloppy food.

Q. Do you approve of feeding meal or chop dry ?

A. Formerly, we used to soak the chop, but have found as good results from dry meal, with less trouble.

Q. Do you think it advisable to have hogs ready for the market at five or five and a half months ?

A. D. C. Anderson, Rugby: I believe it is a mistake to push our pigs into the market too young. It is better to feed no more meal in seven and a half months than in five and a half, and you will have healthier, stronger pigs, with more lean meat and a longer frame. The seven and a half month pig will pay the farmer better and will suit the packer much better than the younger pig.

Q. Why would you not choose sows for breeding from fall litters ?

A. I would always buy sows from spring litters. The young sow that gets the summer run on the grass will be a much longer pig than if she came in the fall. Winter pigs are always shorter than summer pigs. Plenty of exercise is necessary to the growth of young sows.

Q. Are sows from a first litter as good as any other ?

A. I think not. They do not seem to make the same growth as when the brood sow is more matured. I would always buy sows for breeding purposes from two or three years old sows; and be sure that the young sow has a straight ham and a clean skin.

Q. Is there any profit in feeding whole grain ?

A. No. It ought always to be crushed. The only animal on the farm that gets the entire good out of whole grain is the sheep.

Q. You said you would not have a stone hog pen. Why ?

A. In very cold weather a stone building feels warm and comfortable, but when the temperature begins to moderate, the frost comes out of the wall, causing a chilly, damp feeling in the hog pen that the pigs do not thrive well with. Lumber and tar paper makes a dry air in the hog pen.

Q. Have you had any experience with the brood sows and growing pigs getting constipated ?

A. Yes. Some years ago we were more troubled with constipation than of late. Since I began to feed some bran in the ration to brood sows and growing pigs we have had very little trouble with constipation.

Q. Do you feed any ashes to your hogs ?

A. Yes. I have a roomy, warm shed that our winter pigs have a run in. We always put the ashes in one corner of it and I add to it some earth from the root house where the turnips are dumped in from the barn floor. They eat a lot of this.

Q. What would you do with pigs that are crippled ?

A. Put them on a ration of skim milk and bran, but do not over feed in summer. Turn them on the grass in winter. Run them in a roomy pen or shed.

Q. What kind of hogs would be best for this section ?

A. Yorkshire, Tamworth, Berkshire and their cross.

Q. Would you have a stone hog pen ?

A. No, it is apt to be too damp.

Q. What about a concrete floor in pig pen ?

A. Concrete makes the best floor, but the pigs must sleep on an elevated platform. This should be raised about 2½ feet from floor.

Q. Does it pay to cook food for hogs ?

A. Yes, especially the fall litters. Unless you have skim milk there is no better food to grow young pigs from the time they are weaned until they reach 100 pounds.

Q. How long would you keep a sow ?

A. R. Thomson, St. Cartharines: As long as she remained a good mother and retained her usefulness by producing a good litter.

Q. Is the bacon or larger hog as profitable as a smaller, fatter animal ?

A. Yes, if fed roots and coarse grain.

Q. Do you find it profitable to feed grain whole ?

A. No, I prefer to grind it.

Q. Do you have it ground fine ?

A. Yes.

Q. Have you ever tried taking the sow to the hog the third day after having

her litter ?

A. I once tried but failed to secure a litter. I believe that it seldom succeeds, and even if it did I would not advise the practice being followed.

Q. Do you use salt ?

A. Yes, both in the slop and dry meal we use a little regularly.

Q. At what age would you have the first litter come ?

A. From eleven months to fifteen.

Q. When would you wean the pigs ?

A. I prefer from 8 to 9 weeks old.

Q. Would cook roots for hogs ?

A. Not after pigs are three months old, and more especially if pens are comfortable.

Q. Do you think it profitable to feed pigs after they are badly stinted ?

A. I do not.

Q. What is the cause of pigs becoming stiff ?

A. Andrew Elliott, Galt :Indigestion, damp pens, draughts, lack of exercise.

Q. Are cross-bred hogs of first cross more vigorous than the pure bred ?

A. Yes.

Q. Does it pay to boil feed for hogs ?

A. No, except perhaps for young pigs in a cold pen.

Q. What kind of ensilage would green rye make ?

A. Poor.

Q. What is the best food for young pigs at weaning time ?

A. Skim milk middlings, and in winter roots. It may give good results in winter to add a small portion of peas.

Q. What is the best breed of bacon hogs ?

A. Yorkshires, Tamworths and Berkshires, with crosses of these different breeds.

RAPE FOR HOGS.

By Prof. John A. Craig, Iowa Agricultural College.

The principal value of the rape crop lies in the fact that it usually furnishes an abundance of succulent food in a short time. Under the most favorable circumstances the crop is usually ready to feed six weeks after it is sown, though, as a rule, eight weeks elapse before stock can be turned onto it to advantage. It is chiefly its use as a catch-crop, affording succulent food when other crops are not available, that gives it its highest value.

Method of Sowing. Considering this crop only from this point of view, the most successful way of growing it is to sow it on ridges. The best plan I know of is to have the land ribbed with a double-mold-board plow. The furrows between the ridges made in this are half filled with well rotted manure; then the ridges are split back over the manure. If the land has been well worked before plowing the rape may be sown right in the ridges, but if it is at all rough it should be dragged or rolled. It will be found by this method that as soon as the rape starts it will continue to grow steadily and rapidly, without showing any check on account of the dry, hot weather. This is the main advantage of sowing in this way. I have found by experience that much larger yields may be obtained when the land is treated in this way, in comparison with the ordinary way of flat culture. About three pounds of seed sown in rows thirty inches apart, will give the best results.

Level or Ridge Culture. In an experiment undertaken to determine the difference in growing the crop in the ordinary way, and manured as indicated, I found, on carefully cutting and weighing one-sixth of an acre from each plat, that the plat that had manure under the ridges gave us 1,353 pounds more of green rape in one cutting than the same size plat of level ground manured with the same amount. That would mean about 7,000 pounds more green fodder by manuring the land under the ridges. Rape is a crop that seemingly stand any amount of manuring, and hence should be sown on very rich ground, or land treated in this way. The difference in the results obtained by these two methods of preparing the land is very noticeable. The rape growing on the level land, with the same amount of manure given to it as that of the other plat, reaches about a foot and a half in height. The other plat, where the rape was sown on the ridges with manure under them, grew much stronger, and appeared to be much fresher and crisper, was fully three feet high, and shows a much larger growth of leaves. Sowing in this way is an almost sure method of getting a crop, and where the top is to be used in small plats for feeding hogs during the hot dry season, or for cutting it and feeding it to brood sows and growing pigs, I would certainly advise taking the extra

trouble to grow it in this way. When cultivated a couple of times, as it should be, the ridges will have disappeared almost completely.

Using the Crop. To dispose of the crop in the easiest way the most satisfactory plan is to use hurdles and give the hogs a small strip at a time. I do not think there is any danger in giving the hogs all they will eat; but as the hogs will waste considerable if given the whole run of the field, it is best to confine them to a small piece at a time. As a result of two seasons' trials I have found that an acre of rape was worth in hog-feeding 2,600 pounds of a grain mixture consisting of two-thirds corn and one-third shorts. This was determined by having each season two lots of hogs under experiment; the one lot running on the rape, and the other lot penned and getting exactly the same grain ration as those on the rape. We controlled the feeling so that both lots made the same gain, and putting the extra grain which the pen lot required against the extra rape that the other lot received, we found as the average of all the trials that an acre of rape was equivalent to 2,600 pounds of the grain mixture.

Preparatory Feeding on Rape. There is another feature connected with feeding rape during the summer which we have been able to bring out in an experiment here, and that is, that when hogs are allowed to run on rape they will keep stronger and thriftier when pen fed later. In one trial there were twenty-eight hogs on the experiment; these were put on another experiment later, and fed for twelve weeks. When they came off the rape they averaged 210 pounds, live weight, and at the end of the twelve weeks' feed they averaged 340 pounds, which is not only a remarkable gain, but another fact of equal importance was in evidence, namely, that they were all strong and active on their legs at the end of the feeding. These results show that for pasturing hogs during the summer season, either to fatten them quickly or to prepare them for reaching heavier weights later, the rape crop serves a good purpose.

Using Rape for Soiling. Another method of using the crop is to cut it. We are now at this station feeding sixty-four hogs in pens in this way. The rape is cut daily and given to them in two feeds, night and morning. The hogs average about 100 pounds in weight, and easily dispose of from four to six pounds a head daily. When the rape is handled in this way, we have found it possible under favorable circumstances to get three cuttings in a season. To do this with the greatest certainty, the rape should be sown as early as possible in the spring on manured ridges. It may be cut the first time when it is about two feet high. As a result of several experiments in cutting rape different distances from the ground, I have found that four inches give the best returns, compared with cutting it as close as possible to the ground or higher up the stalk. After cutting it should be well cultivated, and it will be found to sprout thickly and rapidly after the cutting. The best results that I have ever been able to obtain by cutting it three times in this way was a yield of thirty-six tons of green rape to the acre. It may be that it is not handy to pasture the hogs on the rape, and for this reason it is well to know that almost as good returns may be obained by cutting it. We are this season experimenting with peas and rape, and so far the rape promises to sustain its past reputation, though the hogs appear to relish the peas much better than anything we have been able to grow. They do not always take to the rape a once, it being necessary sometimes to limit their other food to make them acquainted with the merits of the rape.

Varieties. The Dwarf Essex rape is the one that I have always had in mind in discussing rape for feeding stock. There are some other varieties that have been fairly satisfactory, but as far as I can learn, the Dwarf Essex is most satisfactory. The variety to chiefly guard against is the birdseed rape, which is of very little value for fodder purposes, as it blossoms the first season. It is very similar to the mustard plant, being hairy and having a yellow flower and head, the same as the mustard plant. Its seed is smaller than that of the Dwarf Essex, and of various colors, while Dwarf Essex seed is a uniform deep brown or black.

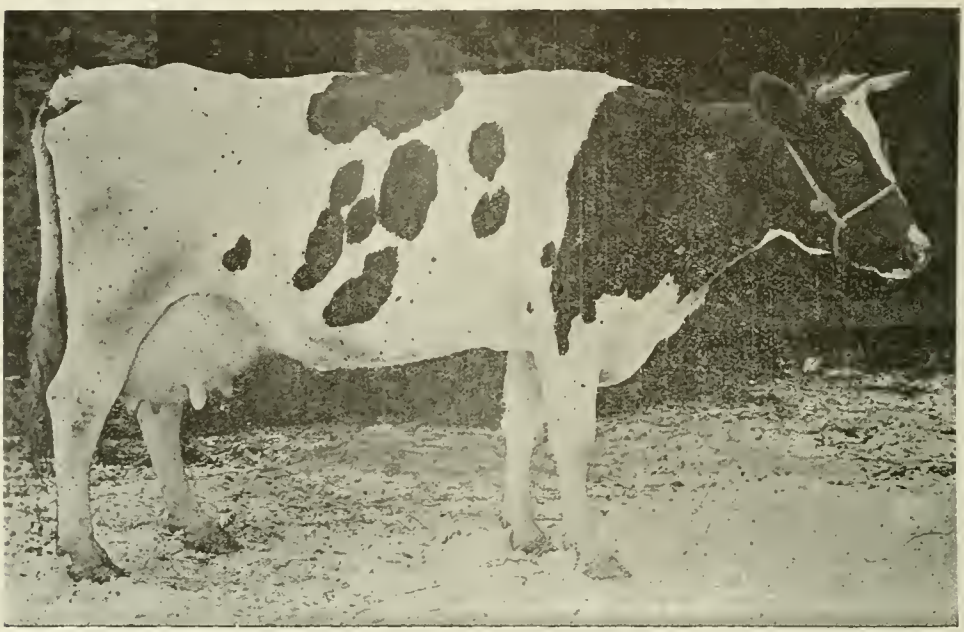
THE DAIRY.

THE SELECTION AND BREEDING OF DAIRY COWS AND HOW TO FEED THEM.

By R. S. Stevenson, Ancaster.

To the farmer who intends to make dairying a leading branch of his farmnig, the question of selecting animals suitable for the business, becomes of the greatest importance, for his future success or failure largely depends on the class of cattle with which he stocks his farm, as no one, so far, has made much of a success of dairying with a lot of cows of the beef type.

Now, we have amongst cows two distinct types, viz.: The beef type and the milk type. They are of quite opposite formation. The beef animal is of a square, stocky build, with heavy quarters, deep flank, broad over the top of the shoulders, and a short, thick and round neck.



Daisy B. Dekoe. Five Years Old.

This cow gives 40 pounds of milk at one milking before her first calf was dropped. Record 11½ pounds of butter in seven days in official test, when 25 months old.
Property of C. W. Clemons, St. George, Ont.

The dairy animal is of quite a different formation; is of a wedge shape, being broad behind, and tapering forward to thin shoulders. The quarters are thin, the flank well cut; the neck long, thin and flat. These are the general characteristics of the two types, and although we sometimes find a cow of the beef form that is a fair milker for a short time, they are not persistent milkers, and their heifer calves rarely make as good cows as they are themselves. The cow that milks for a long period is nearly always the most profitable cow. As a matter of fact, we cannot afford to keep cows that we have to board for six or seven months every year. There are too many cows of this kind on the farms of Ontario. There is no farmer who would submit to having three or four idle fellows sitting at his table, year after year, and earning nothing; yet the same man often has three or four cows in his stable that are doing the very same thing. We must weed out these robber cows if we expect to make dairying a paying business. Now, how are we to get cows that will pay? By breeding and selection. Take the best common cows and breed them to a good bull of one of our dairy breeds. Don't except to get good cows from a beef-bred bull, any more than you would expect to get race horses from a Clydesdale.

In selecting a bull find out what kind of a milk producer his mother was; also if she had a well-shaped udder, with all the teats perfect. This is a very important point, for if you breed from a bull whose dam had an imperfect udder, the probabilities are that a large majority of his heifers will be defective in the most important point of a cow, viz., the udder. This seems to be a defect that is transmitted through the bull with almost unerring certainty.

Select the best heifer calves from your best milkers. Never try to raise a puny, miserable calf. They never make good cows, as they have not the constitution to stand heavy work in the dairy line. These calves must be fed in such a way that when they become cows they will go in the way we want them to, that is, produce milk, and not put on flesh. They must, therefore, not be allowed to get fat when young, as the habit of laying on flesh is very likely to stay with them all through life. Our own practice is to feed the calves with milk fresh from the cow, for about two weeks, then begin to substitute part separator milk, with the addition of a little

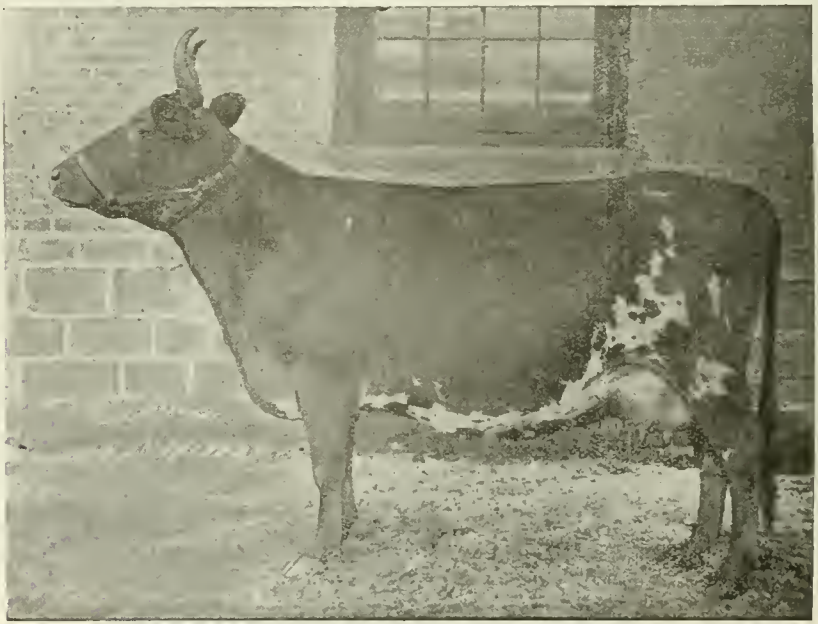
Daisy B. Dekoe.

Showing a good udder development. Teats well placed and wide apart.

scalded oil meal or flax seed, to take the place of the butter fat we have removed, and by the time the calf is a month old it is generally entirely on skim milk and oil meal. At this time it will begin to eat a little oat chop and bran, also some early cut clover. Allow it all it cares to eat of these foods. We continue the milk for seven or eight months, if possible, and the grain until over a year old. By this method we can raise big, strong calves without getting them too fat, and they will have the capacity for digesting large quantities of coarse food, which is what we want in the dairy cow. Heifers should be bred to calve at from two years to two years and a half old. If they are allowed to go until they are three years old they are more apt to get fleshy, and do not make as good cows. Heifers with first calves should be kept milking for a long time, as it is with the first calf that the habit of long milker is formed, and if they are allowed to dry up at say six months from calving, the probabilities are they will do the same thing every time.

In feeding cows for milk we must be governed a good deal by conditions in our choice of foods, so as to feed as economically as possible. We must try to raise all the food ourselves, as when we have to buy it, it cuts quite a hole in the profits. There are certain rules, however, for compounding suitable rations, by which me must be guided to secure the best results. It has been found that cows to produce a large flow of milk, must be fed of foods that contain a large percentage of protein, or flesh-forming substances. Such foods as oats, peas, bran, oil cake and cotton cake, have been found to give the best results. Clover hay is also an excellent food, and whichever of these foods is the cheapest is best. This protein is the most expensive of all the foods with which we have to supply our cows, and it requires good judgment to tell which is the cheapest source from which to get it. The carbo-hydrates are comparatively cheap, as we get them in all our coarse foods, such as corn fodder, ensilage and straw. Roots are excellent for the production of milk, but they are more expensive than ensilage. Still, it always pays to have some, as the more variety we give our cows the better they will do.

The regular salting of cows is a very important matter, and one that I think is often neglected by farmers. Cows require from one to two ounces per day. The best plan is to have some salt where they can help themselvs whenever they want it.



A prize winning Ayrshire under 3 years of age. A good dairy type.

Cows also require a large quantity of good, pure water, and if it can be warmed in winter so much the better, for, if they are obliged to drink ice water, they cannot do their best, as it takes a large part of the food to warm that water to the temperature of their bodies.

In conclusion, the care of cows can be summed up in one word, Comfort, and the man who takes the most trouble in looking after the small details and makes his cows comfortable, is the man who is going to make the most money out of them.

DISCUSSION.

Q. How would you ventilate a basement stable ?

A. R. S. Stevenson, Ancaster : Bathe well with warm water and rub with sweet reaching down to within one foot of the stable floor, with one or two traps that could be opened or shut as needed.

Q. Are concrete floors a success ?

A. Yes, especially for cows. I do not find them cold, and can save all the liquid manure. They are durable and comparatively cheap.

Q. What would you do for inflammation or the udder ?

A. R. S. Stevenson, Ancaster : By air-tight boxes running up through the roof, and oil and laudanum.

Q. Do you believe in dehorning ?

A. Yes.

Q. Do you recommend milking cows to near calving ?

A. Yes, to within two months of calving.

Q. Would you milk a cow before calving if her udder was distressing her ?

A. Yes, if any danger of garget.

Q. Is whey or separator milk the best food for calves ?

A. Separator milk.

Q. Would you dehorn calves or wait until older ?

A. I would wait until two years.

Q. Do you place much importance on the escutcheon in judging dairy cows ?

A. I do not pin much faith in this, but only take it as one of many.

Q. Would you prefer spring calves being put on pasture ?

A. No, keep in the stable.

Q. Do you find it practicable to feed grain whole ?

A. No, I prefer grinding fine.

Q. Would you feed chop wet ?

A. No, especially if fed alone.

Q. How long should cows milk ?

A. Until within six weeks or two months of freshening.

Q. At what age should heifers calve ?

A. At from two years to two years and six months.

Q. Do you consider length of body an important part in a dairy cow ?

A. Yes. A long-bodied cow is more likely to be a larger consumer of food than a short cow; and, as a cow can only produce milk from the food she consumes, the big eater is always the more profitable. Beware of the shy feeder.

Q. What is the best grain feed for cows ?

A. The foods rich in protein, such as bran, oats, peas and oil cake. A mixture of different grains is most desirable, as cows like a variety as much as we do ourselves.

Q. How much will it cost to put a supply of water into the barn from a well forty or fifty yards away ?

A. D. C. Anderson, Rugby : Eighty-five dollars for the windmill, $15 for the tank, 8 cents a foot for pipe, and $2.00 each for the metal water basins with lids on them. On the average farm $150 would put water into most barns.

Q. How do you get your own water supply ?

A. I have a living spring some distance away, and I force the water up to my house with a hydraulic ram, into a large tank. The house is higher than the buildings, and I have a pipe laid from the house to the barn, also across the road to my other farm.

Q. Of what would you build a basement wall ?

A. Three sides of stone and the front of frame. One of the best basement barns in our section has the basement entirely of wood and frame work on a stone foundation, raised about one foot above the ground.

Q. Would you advise the raising of a low, old-fashioned frame barn ?

A. No, better results will be obtained by taking the old barn down, using what timber is in it. Add ten or twelve long posts, and then you have a good barn, with a fine basement for the animals.

Q. Do you see many plank barns ?

A. No, mostly frame.

Q. Would it not be better to have the cattle on the second story and have the manure below ? It is handier to clean out the stables.

A. Having the cattle in the basement, when it is properly built and ventilated, is far too valuable a space for a manure heap. In a dairy section, milk would be very liable to take up bad odors from the manure basement. Better to haul the manure direct to the field.

Q. Have you ever lost calves by feeding separator milk ?

A. Erland Lee, Stoney Creek : No, but have heard of people who have; think they must have been overfed or fed from dirty pails.

Q. What is a proper standard to judge a cow by ?

A. W. C. Shearer, Bright : About 5,000 pounds of milk, or 260 pounds of butter. Any cow that will not produce either of these amounts in a season had better be fatted for the butcher.

Q. How much grain should a fresh milch cow receive daily ?

A. From three to five pounds of bran, two to four pounds of ground oats, and one to two pounds of oil cake. Total, from six to eleven pounds daily, according to ability of each animal.

Q. How long should a cow milk each year ?

A. From nine to ten months if she is a regular breeder.

Q. What is the proper, standard, amount of milk or butter for a cow yearly ?

A. Five thousand pounds of 3½ per cent. milk, or 260 pounds of butter.

Q. Can anything be done to train a heifer to be a persistent milker ?

A. Yes. Feed her well and regularly, and milk her at least ten or eleven months her first season.

Q. What is good to reduce a caked udder ?

A. Bathe well twice a day with hot water, and apply camphorated oil, well rubbed in.

Q. Do you believe in feeding grain while cows are dry?

A. Yes. A small grain ration is required to build up the constitution for the next years' work.

Q. Will ensilage taint milk or butter ?

A. No. Good ensilage makes the choicest butter and milk, and is also one of the cheapest foods one can raise.

Q. How about turnips, mangels and sugar beets ?

A. Turnips are objectionable unless fed in very small quantities, and directly after milking. Mangels and sugar beets are good for milk producing, and do not give any bad flavor.

Q. Can you by better feeding increase the butter fat of milk ?

A. Andrew Elliott, Galt : No, not when cows are in normal condition.

Q. Is there any early fodder that can be used to supplement pastures when they become dried up in summer ?

A. Silage is the cheapest and best. Mix clover, peas, oats and clover hay.

Q. How are cow peas as a fodder crop ?

A. The cow pea is entirely too late for this climate.

Q. What kind of food do potatoes make ?

A. In order to get the best from them, they should be cooked.

Q. Are apples of any value as food for cows ?

A. A few apples are beneficial, especially if sweet.

Q. Would you recommend the feeding of turnips to cows when we send the milk to the factory ?

A. Decidedly not.

Q. Last year it was said that turnips could be quite liberally fed and not taint the milk, either for butter or cheese manufacturing. How do you reconcile your answer with his experience.

A. Mr. Woodward : I do not attempt to. My experience and the experience of factory men all over the land tell me that it cannot be done.

Q. What is the best system of paying for milk at the factory ?

A. By butter fat test.

Q. How would you prepare flax seed for calves ?

A. Pour boiling water over it, and feed with skim milk.

Q. How would you feed a calf that is scoured ?

A. Remove the cause. If the case is severe, feed new milk for a time, until the digestive system becomes regulated.

Q. Is rock salt as good or better than ordinary salt ?

A. We prefer rock salt for summer, and the ordinary salt for winter. When rock salt is used, it should be kept in boxes in the field, where the animals can get it at leisure.

Q. At what age do you castrate young pigs ?

A. About seven weeks old, or just before weaning; at that time the mother's milk will help them along.

Q. Are sugar beets a good food for hogs ?

A. Very good, and when fed with a small meal ration, will form a good food, especially for cows.

Q. Would you milk cows before calving ?

A. No, not unless it is absolutely necessary for the preservation of the udder.

Q. Is there any difference in the churning temperature of the different breeds ?

A. Yes. Cream from Jersey cows may be churned at a lower temperature than cream from Ayrshire cows.

Q. What is the value of the gravity separator (hydro-lactic) ?

A. By diluting milk with water we increase the difference of the specific gravity between milk and cream, and, in this way, a very complete skimming can be obtained; but it is objectionable on account of the increased bulk of skim milk that must be handled. Then this skim milk, on account of the water added, is not so valuable for feeding calves.

Q. At what age would you breed your heifers ?

A. So that they will come in about twenty-eight months of age.

Q. What points would you consider good for choosing a dairy cow ?

A. R. Twiss, Woodburn : A long, deep, capacious body, a long thin neck; legs a little small in proportion to body; a small, tapering tail; small head, with plenty of width between the eyes, and the eye large, with a mild expression; the veins running from the udder to the abdomen large, and the more crooked the better; the more width between the ribs the better, as close ribs denote beef.

Q. What feed would you recommend to produce milk during the summer months ?

A. I have found grass to be the best and cheapest, but during the months of July, August and part of September I have found it necessary to feed green peas and oats. If sown at different times in the spring you can have it to cut green until quite late. I have found that they do well on this feed in summer, even after it is cut, cured, and in the barn. I have had better satisfaction from this than any other green food, corn included. I have also found it to be a first-class article to feed in winter.

Q. Do you think turnips can be fed to milch cows, in limited quantities, without flavoring the milk ?

A. H. Glendinning, Manilla : The flavor of feeding turnips is a matter of degree. If feeding ten turnips per day makes a strong flavor, one turnip will give one-tenth of that flavor; and it may not be perceptible to the palate of every person.

Q. Do you think feeding turnips immediately after milking will give less flavor to the milk than if fed immediately before milking ?

A. No. I do not think it will make any difference, although many people think it does.

Q. Why do you think it makes no difference ?

A. Many people, from constant use of the milk obtained from cows fed on turnips, become accustomed to it that they do not detect any turnip flavor. My reasons are based upon experience, and the construction of the cow's digestive organs. The cow is a ruminant of cud-chewing animal, and when she eats such food as turnips, she stores them up in the rumen, or paunch, which is the first stomach, where it becomes soft and moist. Owing to the large amount of saliva and water that has been passed into it after the food has been softened, and the starchy food has been turned into sugar by the action of the saliva, it is then forced into the second stomach, or reticulum, which is really a part of the paunch. This contains much fluid. From the second stomach some of the food is forced into the oesophagus and returned to the mouth in the form of what is commonly known as "cud." After being chewed fine, it is again swallowed and passed into the third stomach, or manyplies, where maceration goes on. The action of the first three stomachs on food is preparatory, for the most part, for what occurs in the fourth, or rennet, the proper digesting stomach, where its conversion into chyme is completed through the action of the gastric juice. After passing from the fourth stomach into the small intestines, the food is subjected to the action of three other secretions, viz., bile, pancreatic juice, and the testinal secretion, which converts it into chyle, and in which the nutritive material exists in solution. The inner surface of the small intestines is lined with cane-like projections, called "Villi" or "Lacteals," which take up chyle and convey it to the lymphatic system, from which it is poured into the venous system, and on to the heart, where it mingles with the blood current.

As milk is a secretion from the blood, it would take several hours from the time the food is eaten by the cow until the nutriment is taken up by the blood and passed into the milk, and I cannot see how a few minutes' difference in the time of feeding, either before or after milking, can make any difference to the flavor of the milk. Some people will tell you that it is the breath that effects the milk. Well, there is some sense in that, as the breath contains the waste products of the blood, from which the milk is secreted; but it must be remembered that the cow does not throw off any offensive flavors by the breath, while the food is stored in the paunch, or first three stomachs.

Q. When is the best time to clean the stables, after or before milking ?

A. A. P. Purvis, Maxville : I think after would be better than before.

Q. What causes so much cream floating on some milk in the morning ?

A. Want of proper care, aeration and stirring while cooling and after.

Q. Can the can be thoroughly scalded with the cover on ?

A. I don't think it can be done as well as by scalding each separately.

Q. Why is not Monday's milk as good as any other for making cheese ?

A. It is as good if properly cared for. The trouble is, that the old Sunday morning's milk is cooled before airing.

Q. Do you think frozen milk is injurious for cheesemaking ?

A. I don't think it spoils it, but it makes it more difficult to generate proper acid, and perhaps causes pasty cheese.

Q. Do you believe in paying for milk by Babcock Test ?

A. I think by using an addend of 2 or 2½ to Babcock Factory reading, there would be more satisfaction than pooling or net Babcock Factory reading.

Q. Do you think the animal odor can all be removed from the milk by aeration ?

A. Yes, I am sure of it; but I do not say that you can remove all bad or foul odors by aeration, as I do not think you can.

Q. Would you advise the cheese maker to refuse all milk that is tainted or that stinks ?

A. I certainly would.

Q. What is the best kind of material to make a whey tank of, wood or galvanized iron ?

A. Wood, as the whey very soon eats the iron away.

Q. Do you approve of whey vats elevated ?

A. Yes.

Q. Who is to blame for the shipment of green cheese ?

A. I think the buyer is first to blame.

Q. Is milk fever more common in cows pastured on grass ?

A. Dr. Reed, Guelph : No. The fresh grass acts as a mild purgative, and tends to overcome any unhealthy condition in cows.

Q. Is timothy hay good feed for cows giving milk ?

A. D. C. Anderson, Rugby : No, there is too much hard, dry woody fibre. Clover hay has far less indigestible matter, and nearly double the quantity of protein and fat.

Q. Does a cow give more milk and cream on mangels or turnips in equal proportions, other rations being the same ?

A. Prof. G. E. Day : This question has never been decided. There is probably so little difference, if any, that experiments in feeding cannot detect it.

Q. Can butter fat be increased in milk by feed of any kind ?

A. It is doubtful whether it can be increased at all. At any rate, it cannot be increased to such an extent that the increase is of any practical importance.

Q. What temperature should water be for stock in winter ?

A. T. G. Raynor, Rosehall : Between 40 and 50 degrees.

Q. Which is better for milch cows, turnips or mangels ?

A. Mangels. The feeding of turnips affects the quality of milk products.

Q. Do you water twice a day ?

A. No, but I would like to if I had stable appliances to do so.

Q. Why does not barley meal give satisfaction in producing butter ?

A. It affects the flavor injuriously.

Q. To what extent may turnips be fed for milk and its products ?

A. The consensus of opinion is unfavorable to feeding turnips to milch cows. Some men can feed judiciously; others cannot, or do not. Where milk is pooled, the whole of the milk is injuriously affected.

Q. Is skim milk a good cow food ?

A. Yes. (R. McCulloch, of Snelgrove, has good success with it.)

Q. What is the reason we cannot get as much for our cattle as the Americans do ?

A. James Tolton, Walkerton : We do not finish our cattle; we sell them too soon.

Q. Do you feed your grains dry ?

A. Yes.

Q. Would you not consider it more profitable to feed cattle weighing twelve hundred than under one thousand pounds?

A. Yes, for short keeping. Oats is one of the best foods for cattle, but a mixture of oats, peas and barley is better.

Q. What would you feed if you had no roots or ensilage ?

A. Bran.

Q. What is the best age to fatten if you raise your own cattle ?

A. Two years of age, for profit.

Q. What would it cost to feed a bull well ?

A. About $25.00 a year.

Q. What is your winter ration for dairy cows ?

A. W. C. Shearer, Bright : One sheaf of oats and peas, hay at 6 a.m.; at 9 a.m., one-half 45 pounds ensilage and 4½ pounds meal; at 3.30 p .m., balance of ensilage and meal, and at 7 p.m., all the oat straw they will eat. Our meal ration consists of four pounds oats, three pounds bran, and two pounds oil cake per day. The average cost of this whole ration is thirteen cents per cow per day. I also add two ounces of salt to each ration every day.

Q. In the absence of ensilage, what would you advise for winter feeding.

A. I would prefer, under such circumstances, to have roots to give succulence to the food.

Q. At what time do you dehorn ?

A. Mr. Pake, North Brant : From six weeks to six months.

Q. What would you give to scouring calves ?

A. T. G. Raynor, Rosehall : Egg, castor oil and flour. Teaspoonful of rennet.

Q. Do you cut hay and straw for stock ?

A. D. C. Anderson, Rugby : Yes, part of it, when feeding long and coarse oat straw. We pulp our roots and mix with the cut straw or chaff.

Q. Some of the delegates, who have been successful, claim that it is worth five dollars to the calf to get its first feed from the dam, and to let the dam lick the calf ?

A. A. C. Hallman, New Dundee : Let them prove it. I can't.

Q. Does it prevent milk fever to let a calf suck its dam for a day or two ?

A. Perhaps it does in some instances, but sometimes the fever has commenced before calving. It is better, if the udder is very much distended, to milk some for a few days; and a few light doses of salts is an excellent preventative.

Q. Which is the better for a dairy cow, roots or ensilage ?

A. Better to have some of both.

Q. What is your winter ration for dairy cows ?

A. Ensilage, roots and mixed grains.

Q. Do you think a cow with a fleshy udder gives richer milk than a cow with a soft udder ?

A. No, not as likely to be as good.

Q. If you were establishing a dairy herd, what breed would you select ?

A. If for a cheese factory or for milk, I would take the Ayrshire or Holstein.

APPLES AND APPLE POMACE FOR MILCH COWS.

By Prof. H. H. Dean, O. A. C., Guelph.

We have been asked to make some experiments with apples and apple pomace for feeding cows, and I take pleasure in submitting the results for the benefit of your readers.

We selected six cows in the dairy herd in varying stages of lactation for the purpose of an experiment. Three were given pulped apples in addition to their regular ration, and the other three were given apple pomace from a cider mill in addition to regular feed. Each of the three cows was given about half a bushel of apples per day, and the cows receiving the pomace were fed about the same quantity. The apples cost fifteen cents a bag. The pomace cost nothing but the labor of hauling from Guelph. All of the cows ate the apples greedily, but one of the cows selected refused the pomace, and we put another in her place after vainly trying to coerce her.

The experiment continued for sixteen days—October 4th to 19th. The milk was weighed from each milking and samples were taken daily for testing. The monthly fat test for September was taken as the percentage of fat in the milk for the period previous to feeding the apples and pomace, which probably accounts for the lower yield of fat in this period. We have found that our cows usually test lower in a hot, dry month.

Yield of Milk and Fat. The three cows fed on apples gave 1,174 lbs. of milk, which contained 32.78 lbs. fat during sixteen days previous to the experiment. While fed on apples, in addition to meal, silage and pasture, these cows gave 1,122 lbs. milk and 33.6 lbs. fat, in sixteen days.

The three cows fed on pomace gave 1.003 lbs. milk and 38.58 lbs. fat in sixteen days on ordinary feed. When one-half bushel of pomace was added daily to each cow's ration, the yield of milk was 1,063 lbs., containing 39.39 lbs. fat in sixteen days.

During the last three days of the trial the quantity of meal was reduced by about two pounds per cow each day, to note whether the apples or the pomace were capable of maintaining the milk flow when the meal was lessened. The three cows on apples and a full meal ration, gave 211 lbs. milk in three days, and during the next three days when the meal was reduced, they gave but 196 lbs., or 15 lbs. less milk in three days.

The three cows fed pomace and a full meal ration produced 204 lbs. of milk in three days, and 200 lbs. during the next three days on a reduced meal ration. One cow gave exactly the same quantity in each trial, while each of the other two gave two pounds less in the three days.

Conclusions. 1. The cows fed on apples, meal, silage and pasture decreased in their flow 52 lbs. in sixteen days. The cows fed on pomace, meal, etc., increased their flow by 60 lbs. in sixteen days.

2. Neither the apples nor the pomace maintained the milk flow when the meal was reduced. Five cents' worth of apples (one-half bushel), were not equal to two cents' worth of bran, pease and oats.

3. The flavor of the milk and butter, from the pomace especially, was not good, hence we should not advise the feeding of apple pomace to cows, though it appears to stimulate milk production when fed along with other foods. Whether it is advisable to feed apples or not in small quantities, may depend upon circumstances, such as the

individuality of the cows, combination with other foods, etc. In the case of the three cows in our experiment, the milk flow was reduced by adding apples to the ration.

I may add that we have cheese and butter made from milk produced by cows when fed on apples, apple pomace and rape, with and without the addition of "Virginia Cattle Food," which is said to be a milk purifier. We purpose also to feed some cows on turnip tops, with and without the "Cattle Food," to note the effect on flavor. The results of this experiment, together with the score of the cheese and butter already made, will be reported upon at a later date.

CREAM SEPARATORS ON THE FARM.

By Erland Lee, Stony Creek.

Of all the improvements in the butter making industry that have been made in recent years, the cream separator is the most important. The following are a few reasons why it is such an important factor in the home dairy :—

1st. There will be fifty more pounds of butter made from every cow per year, which in a herd of one hundred cows means $100—more than half the price of a good separator.

2nd. The cream will be churned twenty-four hours sooner than if the setting system were followed, because in the one system the cream is taken from the new milk, and in the other it is taken from milk twenty-four hours old.

3rd. The richness of the cream can be better controlled, and the richer the cream the lower the temperature at which the churning can be done (providing it is not too rich). If too rich, the cream will stick to the sides of the churn, and water will have to be added. Cream testing about 30 per cent. butter fat is nearly right to obtain the best results.

4th. The skim milk will be fresh, and will not require heating to feed the calves or young pigs. If cold milk is heated for young stock, sufficient pains are not taken to get the proper temperature, and sometimes it will be too hot, and sometimes too cold. This is injurious to the digestive system of the animals.

What to Look for in Buying a Separator. There are several things to be observed in purchasing a separator, viz.: Ease of turning, capacity for skimming, ease of cleaning and durability. Some experience is required to run a separator properly or at least a person gains knowledge continually, no matter how long he may run one. The person having a mechanical bent will soon be able to fathom the why and wherefore of the machine. Of course, there are people who will make a machine last twice as long as others, whether it be a mower, binder or cream separator. Attention must be given to regular steady turning (in the case of hand power), constant olling, but not too much at once. Be very careful to follow closely the directions which are sent with the machine.

In a locality of creameries, where the cream-gathering system is in vogue, the separator is of immense value, as the cream will reach the factory in much better condition, besides making more butter out of a given quantity of milk.

Factory Methods Make Best Butter. Just a word of warning, if we wish to make the best quality of butter. I think the milk should be taken to the factory and separated there, and, perhaps, pasteurized. It is claimed that where pasteurizing is done, it is better to pasteurize the whole milk than the cream, and if the cream is not collected every day, it may arrive a little sour. It cannot then be pasteurized with as good results.

There is one more point which must not be overlooked, and that is, that warm cream should not be added to cool cream. It is better to cool it by aerating, and the use of cold or ice water. When quite cool, empty it into the cream can and stir well from the bottom to the top. Milk sent to creamery or cheese factory should also be cooled in the same way. Proper attention to these matters will result in less sour milk being sent to the factories.

Care of Bowl. The slime in the separator bowl should be burned, and never fed to young stock. If there are any disease germs in the milk many of them will be found in the slime. Keep the bowl thoroughly clean, and never forget to scald with hot water after it is well washed.

Turn the machine steadily, and at the proper speed. If rather below the full capacity it will do better work. By frequent use of Babcock test for skim milk and cream, you will be enabled to regulate the speed of turning and proper amount of milk to run through per hour. Anyone making butter from a herd of eight cows cannot afford to be without a separator.

Note. There have been many cases of calves dying when fed on separator milk, but I attribute it to too much at a feed, or unclean pails or filthy stables.

INCREASING MILK PRODUCTION.

Mr. C. P. Goodrich, of Fort Atkinson, is one of the best-known institute workers in the United States, and is an authority on dairy matters in his own State of Wisconsin. At the Western Dairy Convention held in London, Ont., last January, he told us his experience in handling a herd of dairy cows. When he started there were no dairy schools or dairy professors, he had to build almost entirely on his own study and experience. He started in 1875 with a yearly average of 150 pounds of butter per cow. In 1893 he had got up to 339 pounds, but his advancement was not very regular. In one year he rose from 150 to 250 pounds. The explanation was that at first he depended altogether on corn grown on his own farm, but was led to buy freely of bran and similar feeds to balance the carbonaceous quality of the corn. Then he got the idea that he could buy cows cheaper than he could breed them, and his mistake pulled down his average very seriously. Since then he has kept the calves from his best cows, fed in accord with the best teachings of science and experience, collecting new ideas as fast as they assumed reliable shape. The silo was the means of raising his annual average forty to fifty pounds a year, and with a gratifying reduction in the cost of production.

CARE OF MILK SUPPLIED TO CHEESE FACTORIES AND CREAMERIES.

By J. H. Corrigan Mt. Forest.

To secure fine flavored goods, cream, butter or cheese, care must be taken to see that the herd of dairy cows is in a healthy condition.

Cleanliness in handling milk is of vital importance. See that all pails, dishes, cans, strainers, etc., in use in connection with the milk be thoroughly washed every day, scalded with boiling hot water, and scoured once a week with salt. There is no more important subject in dairying than the care of milk from the time it leaves the cow until it reaches the factory.

Do Not Milk the Cows in the Barnyard. Cows are usually milked in barnyards. This is not a proper place to milk cows, where manures are throwing off gasses of an undesirable kind. The air in barnyard surroundings is full of injurious bacterial life, which are sure to contaminate the milk and give bad flavor to cream, butter or cheese which is daily made in our factories for human consumption. The better place to do the milking is away from barnyards, in a clean grass field. There you will have pure air. The person in charge should be very kind to the herd of dairy cows, and before beginning to milk, should brush the udder to get rid of all foreign matter. Use hot water and soap to wash your hands. Before starting to milk put on a clean apron, and the same person should always milk the same cows at a set time morning and evening, using only tin pails. In milking, use kindness, neatness, systematic regularity and milking out clean. Aeriate milk by straining and dipping continuously, or at short intervals. Cool milk to the temperature of the air. About half an hour continuous dipping will properly aeriate 200 pounds of milk. In warm evenings it will do good to submerge cans in cold water.

Bacteria, Good and Bad. Reducing the temperature of milk makes the conditions unfavorable for bacterial growth. Bacterial life begins in milk at 55 F. They work very slowly at this temperature One form converts the milk sugar into lactic acid—its bacteria life. That thickens and sours the cream. They are indispensible in making butter and cheese, but they must be controlled.

The filth germs that breed from dirty milk pails, dirty strainers are the undesirable kind of bacterial life. They sour the milk more quickly, and produce bad flavors in the cream, butter and cheese. Hence, cleanliness is of vital importance.

A higher degree of heat than that required for the normal development of milk, is destructive to the bacteria, so, in like manner, a reduction of the temperature retards their growth—it does not destroy them if not below the freezing point, but it stops their development, and renders them inactive. It is for this reason that pains should be taken to reduce the temperature of the milk (by means of ice water), to a point as near the freezing point as practicable. Heat and cold, relatively speaking, are, therefore, effective means in controlling bacterial life in the creamery.

CREAMING MILK AND THE VALUE OF A HAND SEPARATOR.

A farm dairy woman once asked me the question: "What matters it if considerable butter fat is left in the skim milk as long as it is used by the family and fed to pigs?" The extent of the loss of butter fat, by the shallow pan system of setting, is not well understood. Under the very best system of setting the loss may not appear alarming,

but it is nevertheless considerable under any of those systems. The loss will run as high as one and one-half (1½ per cent.), and in a dairy of a dozen cows, this means, in time, a great loss, there is not enough fat in the skim milk to play a conspicuous part in the feeding problem of either man or beast. So far as the pig is concerned, it has been demonstrated that sweet separator milk, with but a trace of fat in it, is better for the animal than sour milk that contains a large percentage of fat. Suppose that the separator saves only one pound of fat in every 100 pounds of milk. Suppose that a cow gives 5,000 pounds of milk—which she ought to do in a year—we should save fifty pounds of butter on that one cow, which at fifteen cents per pound, would amount to $7.50. If we had ten cows, the saving would be $75.00, if we had twenty cows, the saving would be $150.00. In six months we would pay for a separator, and all our savings thereafter would be clear profit. It is idle to say we can afford to throw away this amount of money. Farming and dairying will not permit such waste, and everyone of us know it. It is not disputed that as good butter can be made without the modern implements and machinery as can be made with them. It has been done. Prize butters have been made in that way, but they are rare exceptions, so rare that they are regarded as almost miracles. The fact that professional butter makers find it necessary to adopt modern methods, is sufficient evidence that they are profitable. These people are in the business for the money that is in it, and they would not spend a penny for anything they could do without. It is not so much that farm butter makers question the advantages of modern methods as it is they hesitate to adopt innovations. But it is an age of progress, and in any line of business, people who are engaged in it must do either one of two things: Keep up with the procession or fall out, really or practically. The separator is also a labor-saving device when one becomes familiar with its use and care. The necessity for caring for many pans and cans is done away with to a large degree. Creaming milk with the gravity process, at normal temperature, holds the butter fat globules in suspension, heating milk expands the butter fat globules, and with the separator, practically speaking, there is only a trace of fat left in the milk.

BUTTER MAKING.

By Miss Alice Hollingworth, Beatrice, Muskoka.

Perhaps you are expecting me to tell you how to manage a model dairy; but before I do that I want to see the model farmer who will supply his wife with the proper appliances to work with.

I find that, with very few exceptions, the kitchen is used for a dairy in the winter, even by those who have a dairy for the summer, but who lack the means of heating it when cold weather comes.

This is very unfortunate for the butter industry, but since it is so, I think it best to deal with the difficulties which kitchen dairying presents.

The greatest of these, I think, is to obtain a good flavored cream from milk that is set in the kitchen cupboard, where, in addition to the various odors of the food, you are pretty sure to find the all-pervading fumes of tobacco.

The most common plan is, I believe, to set the milk in shallow pans. Some think to mend matters by deep setting, which is an improvement if the cans are placed in ice water, but if they are left standing under the stairs or in any odd corner, their use will result in a greater loss of butter fat than when shallow pans are employed. Ice water is just as necessary in summer as in winter.

The Cream Separator the Best Method. The very best method is to use the cream separator. I can speak from experience in this matter. We began with the shallow pan, then adopted deep setting in creamers, and are now using a separator. We have tested the merits of each method by using the Babcock tester. Let me remark here, that it will pay every farmer who follows dairying to have a Babcock tester. It is easily worked, and will not only tell you whether or not your cows are paying for their board, but will show you how much is lost by careless handling of the milk and cream. I often hear people argue that, when the skim milk is fed to calves and buttermilk to the pigs, there is no loss. But you will need much better prices for beef and bacon before you can make any profit out of feeding them on butter fat, especially when you can get flax meal at one-third of its cost, which will do the calves just as much good.

To return to the separator, the separating is done as quickly as possible after milking; the milk is fed fresh and warm to the calves, and, even if no flax meal is used, the purity and freshness of the milk makes it a more valuable food for the calves than the richer skim milk which has been standing twenty-four hours or more to become sour and germ-laden, and then warmed up in the "calf pan," which may be

distinguished from other pans by the layer of burnt milk on the bottom. A separator is a profitable investment under any circumstances, but most particularly so when the kitchen and dairy are one. In collecting cream from day to day, be sure to stir the whole mass well every time fresh cream is added. Neglect of this causes uneven color and curd in the butter. If you are only getting a little milk, it is better to churn at least once a week, in preference to waiting till you have a full churning.

Bitter butter is the result of keeping cream too long from cows that have been milking a long time. The bitterness is due to the development of a germ—a yeast plant.

To obtain the best results in ripening winter cream, it should be pasteurized and have a starter added, but unless this is done with more care than is usually exercised in the kitchen dairy, it had better be left undone.

Pasteurizing to Purify the Cream. It is very easy to give the cream a flat, cooked taste. However, if your cream is tainted with any objectionable flavor it is well to know that this can be removed by pasteurizing, which is simply setting the cream can in hot water, which must not exceed a temperature of 180 degrees F. Stir the cream constantly (to prevent cooking), till it is heated to 160 degrees F., then remove to a cool place. This process practically destroys all the bacteria or germ life in the cream, including the lactic acid germs, which are necessary to cause ripening. These are supplied by a "starter," which is a ferment used to hasten the ripening of cream.

How the Starter is Obtained. It may be made by putting good, fresh milk in a self-sealer in a warm place, till it sours; but this is not always successful. I heard Mr. Stonehouse, Instructor at the Ontario Agricultural College, say that he had tried every day for two weeks and failed to get a good starter in this way. It is better, when first beginning, to get the pure culture, which is in the form of a white powder, and can be bought from the dairy supply companies. Once you get a good starter you may keep on using it without change (so long as it remains good) by adding it to the fresh milk just as you add a cupful of old yeast to the fresh batter when you want more yeast. Milk that is used for a starter, should have 25 per cent. of water added, then be pasteurized in the same way as cream.

Cool it down rapidly to 80 degrees F., add a small quantity of the previously-made starter, stir thoroughly, cover and leave undisturbed till required for use, when two or three inches should be removed from the top (the top layer contains bacteria injurious to the cream), the whole stirred till it is smooth and without lumps, and then about 10 per cent. of it is added to the cream, which has been allowed to cool down to 70 degrees F. after pasteurizing. Stir well and put the cream where it will maintain a temperature of about 55 degrees F. until it is ready for churning, which should be in twenty-four hours. Never mix sweet and ripened cream together just before churning. The ripe cream churns more rapidly, and, consequently, when the butter comes much of the sweet cream is still unchurned, and passes off with the buttermilk.

The Right Temperature for Churning. In regard to the right temperature for churning, that is a question each of you must decide for yourselves. There are several points to consider: The temperature of your room, the period of lactation, the season of the year, the food and breed of the cows and the condition of the cream. Cream from fresh cows churns at a lower temperature than that from cows that have been milking a long time. Cows fed on succulent food, like roots and silage, will give a more rapidly churning cream than if fed on timothy hay and dry corn stalks. Over-ripe cream should be churned at a lower temperature than if it had been taken at the right time. Poor, thin cream requires a higher temperature than rich cream. Milk of Ayrshire cows is, perhaps, the hardest to churn. The fat globules in their milk are very minute and slow to collect. For this reason their milk is much better adapted for cheese than butter. Much of the butter at the O.A.C. dairy is churned at 57 degrees F. or lower. We keep Ayrshire cows, and in winter I always churn at 67 degrees F. and get it in good, firm granules at that.

Scald the churn well before using. Have a strainer of fine perforated tin, with ears or rests, so that it will fit the top of the churn, and pour the cream through it. It will retain the lumps and curd, which can be removed from the strainer much more rapidly than from the butter.

Have a Modern Labor Saving Churn. A word as to the kind of churn to use. I have been so accustomed to seeing the barrel churn in the backwoods of Muskoka that I never doubted but that the old, upright dash churn had long since become a relic of antiquity in the older and wealthier parts of Ontario. It is with amazement that I learn that where 100-acre farms will command from $5,000 to $8,000 each, where the farmers have all modern improvements in labor-saving machinery, the wives are still

pounding away with the primitive dash churn. I know there are women who will make good butter with the old-fashioned appliances, but is not this reason enough why they should be rewarded with the improvements that require less labor ? It certainly requires less energy to turn the handle of a barrel churn than to use the dasher, and it is so much easier and better to wash the butter while it is in loose granules in the churn than after it is in the bowl. If the cream is in proper condition it should not take more than 20 or 30 minutes to churn. Long churning is caused by the temperature being too low, the cream being poor in fat, the cream having been kept too long, the cows being poorly fed, or having been milked a long time. About two quarts of water at 50 degrees or 55 degrees F. should be added when the butter breaks, if it is soft and has churned quickly, but if it has been long churning and breaks in fine granules, do not add the water till the granules are almost large enough to stop the churning, which is when they are the size of a grain of wheat or a little larger. The object in using the water is to thin the buttermilk, so that the butter will rise to the surface, and allow the buttermilk to drain off more freely.

Set the cream strainer on the pail and let the buttermilk run through it, to retain any particles of butter that leave the churn. In washing use the same quantity of water as of cream. About 50 degrees F. is the best temperature in ordinary cases. Strain into the churn, fasten the cover on, and revolve rapidly, to prevent massing, about a dozen times.

Working and Salting the Butter. While the water is draining off scald and then cool the butter-worker. This is a triangular, sloping table, with a lever attached, which may be bought for $2.50 or made quite easily at home, and is so much superior to the old-time bowl and ladle that any woman who has once used it will never be without it. In using the lever press gently, and avoid a sliding or chopping motion, as this spoils the grain of the butter. Salt according to the taste of those who are going to eat the butter. I like ¾ oz. to the pound, but some of our customers say it is not enough.

The cream strainer makes a good sieve for sifting the salt on the butter, which should always be done while the butter is in loose granules, to ensure thorough mixing. If the butter is not too soft, once working is sufficient, unless it is to be kept for a long period, when it is better to give it a second working.

Parchment Paper Often Used Carelessly. I believe the use of the pound mould and parchment paper is pretty general, but, judging by the rough, warty appearance of the paper on butter that I see in the stores, I do not think it is generaly known that the paper should be well soaked in water to make it wrap neatly. Do not put salt in the water; it spoils the appearance of the paper, and is not necessary. In conclusion, let me say that the object of the Superintendent in sending me here is not for the sake of what I may teach you, but to encourage the farmers' wives to come out and talk over their work. Each one of you must have learned something by your own experience that will be of value to your neighbor, and it will be better for yourselves and everyhody else when you meet together and discuss your common interests the same as the farmers or the sensible people of any other profession. Above all, let me urge you to send your sons and daughters to the O.A.C. Dairy School. The instruction given, which is of the highest order, is perfectly free; the only expense entailed being board and railway fares, and this is repaid a hundred times in the useful knowledge gained. I have met people who think they know everything about butter. Prof. Dean and his staff of instructors freely admit that they have still much to learn.

It is this spirit of being able to see the room for progress and improvement that we need to infuse among butter-makers throughout the country.

DISCUSSION.

Q. What kind of deep setting is best?

A. By Miss Hollingworth : The creamer with a zinc box in a wooden frame, the zinc being made to form two cylinders, through which the movable milk cylinders with glass and taps at the bottom are slid, and can be taken out when repairs are necessary.

Q. When should a starter be added to the cream ?

A. Twenty-four hours before churning.

Q. How long should milk be kept in deep setting in winter ?

A. Twenty-four to thirty-six hours.

Q. How long will it take a herd of 8 or 10 cows to pay for a separator ?

A. We realized $5 per month extra profit over what we had done without the separator. If I remember rightly we had eight cows milking at the time.

Q. What is the cause of butter being like granulated sugar and not collecting ?

A. The cream was poor in butter fat, and perhaps too cold. Have a richer cream.

Q. What is the cost of a Babcock Tester ?

A. $4 and upwards.

Q. Will not buttermilk do as well as sour milk as a starter ?

A. Yes, if it is perfectly good. Too often it has developed injurious bacteria.

Q. Does freezing injure cream ?

A. I think not. Prof Dean says he has inquired among creamery men who receive frozen cream and they say it makes no difference.

Q. Why is there considerable butter left in the buttermilk sometimes ?

A. This is the result if the temperature is too high, if sweet and sour cream are mixed just before churning, or if the churn is filled too full. A churn should not be filled more than one-third of its capacity.

Q. Would you recommend pasteurizing on the farm ?

A. For winter butter, yes, if it is properly done; if not, it is better let alone.

Q. Would it be worth while having a butter worker for three or four cows ?

A. Yes, if you have only one cow have a butter worker.

Q. Would you recommend investing money in modern appliances if there is a creamery near.

A. No, send the milk to the creamery; the farmer's wife has plenty of work without it.

Q. Can pure cream be obtained without the use of a separator ?

A. I think so, but the chances are against it.

By Mr. Woolley : I say not; examine the dirt in a separator bowl after using, to prove it.

Q. How should cream be warmed for churning?

A. By setting the cream can in hot water and stirring.

Q. What about butter color ?

A. It depends on where the butter is to be consumed. Canadians want it colored; the English want it white. The use color at the O.A.C. dairy.

Q. Is not whole milk better than skim milk for a starter ?

A. Not if the skim milk is fresh from the separator. The fat in the whole milk is no help to the starter, and is wasted if you don't use all your starter.

Q. What do you think about using soap on dairy utensils ?

A. It should never be done; you may use soda, but for wooden utensils the best thing is to dip a wet brush in salt and scrub well.

Q. What are the main points to observe in putting up a dairy building ?

A. Construct it so that the temperature can be controlled; have good drainage ,a perfectly tight floor so that no milk can get under, and a building erected that can be easily cleaned in every part.

Q. Is it possible to wash the flavor out of butter ?

A. Yes, a finely-flavored butter is injured by too much washing. It is not so easy, however, to wash out a bad flavor.

Q. What quantity of salt do you use ?

A. For my taste I like ¾ oz. per pound, but that is not enough to satisfy the general public. My experience is it is best to almost double this. Don't deprive your customers of salt if they want it.

Q. When should starter be added to the cream ?

A. Twenty-four hours before churning.

Q. What would do with a woman who does not want modern dairy utensils ?

A. Send her to the Dairy School. When she has once known the pleasure and satisfaction of working in a properly furnished dairy she will not submit to the makeshift dairies we have on the farms.

Q. When is cream ready for churning ?

A. When it is pleasantly acid to the taste; of a smooth syrup-like consistency, and presents a somewhat oily, shining surface.

Q. I know a man who is milking 20 cows and cannot get butter from his cream. What is the matter ?

A. The physical condition of one or more cows may be causing the trouble. More likely they have all been milking a long time and the milk contains viscid substance which prevents churning. In this case add a pail of water, same temperature as the cream, churn a few minutes then let stand till the cream rises to the top; draw off the water and there will be no trouble about getting butter. With slow churning cream it is especially necessary to avoid a large churning. The churn should not be half full at any time, and if there is trouble with the cream only fill it one-third. Don't keep the cream a long time (if not getting much milk) waiting for a full churning. See that it is well ripened. Don't trust to your finger for temperature. Use a thermometer. If 60 degrees won't do try it higher.

Q. What is the price and capacity of a hand separator ?

A. There are many different makes of separators on the market. The price runs from $75 to $125, and the capacity from 250 to 400 pounds per hour.

Q. What is the best way to aerate milk ?

A. A. P. Purvis, Maxville : Anything that thoroughly exposes the milk to the

air will do the work. You can do it by dipping; and a common sap bucket with a rigid bail soldered on and a number of small holes made in the bottom makes a very good aerator. The secret is, to use the aerator night and morning and do the work thoroughly .

Q. What effect will frozen cream have on the butter ?

A. T. G. Raynor, Rosehall : It affects the flavor and is hard to churn.

Q. Why does butter take so long to gather after the cream breaks ?

A. Cream from stripped cows and bad handling of the cream will make this.

Q. Which will make the most cheese, milk testing 3 per cent. B. F. and 8 per cent. solids or milk testing 4 per cent. B. F. and 8 per cent. solids ?

A. Miss Maddock, Guelph : The 4 per cent. milk will give a larger quantity and better quality of cheese.

Q. How long should cheese stay in the airing room before shipping ?

A. After careful experiments at the College it has been proven that cheese will cure best at a temperature of 65 degrees F., and in order to have a mellow, well-kept cheese it ought to be kept at that temperature at least two weeks. When cheese is shipped and put in cold storage when it is not a week old (as is the custom in many factories) it has not had time to become mellow and consequently the grade is much lower in quality.

Q. Does the casein increase in milk in the same proportion as the fat ?

A. No. The casein in milk is fairly constant, while the fat varies according to the breed, the time of the year and the individuality of the cow.

Q. Can you feed fat into the milk ?

A. The quantity of fat may be increased by feeding, but the fat constituent cannot be increased, provided the cow is in normal condition, and giving a normal quantity of milk.

Q. How long should cream stand at churning temperature before churning?

A. From six to eight hours.

Q. What is meant by pasteurizing ?

A. By the term "Pasteurize" we mean heating the milk or cream up to a temperature of 160 degrees F. in water at 180 degrees F. and keeping it at that temperature for 20 minutes, then cooling down rapidly to the temperature of the air.

Q. What is the object and benefit of pasteurizing and why is it called pasteurizing ?

A. The object of pasteurizing is to destroy as far as possible any bacteria that may be in the milk. The system is called pasteurizing after Mr. Pasteur, who first invented it in connection with the beer industry.

Q. Why is cream harder to churn in winter than in summer ?

A. 1st, because the cows are in an advanced lactation period; 2nd, possibly because of the change in food, also because the temperatures are not so easily regulated.

Q. Will buttermilk do for a starter for home dairy work instead of cream ?

A. Yes, if it is from butter that has given a good flavor, and is of good keeping quality.

Q. How many times ought butter to be worked ?

A. When it is intended for immediate use one working is sufficient, but for keeping two workings are preferable.

Q. Does food affect the quality of milk ?

A. If a cow is giving its normal quality of milk the fat constituents cannot be permanently increased by feeding.

Q. Do you approve of coloring butter ?

A. Yes, if the market demands it. Care should be taken not to use too much. A nice June tint is about right for Canadian market.

Q. How would you ripen cream on the farm ?

A. Each time the cream is taken out of the can for churning the cream can should be well washed and scalded, and put in the sun if possible. Before churning take out a cupful of cream (provided it is of a nice flavor, etc.) and use this as a starter Each time the separating is done cool the cream down before mixing with the cold cream in the can. When the cream is put in with the old cream care should be taken that both are thoroughly mixed with the original starter in order to cure the cream uniformly.

Q. When I gather my butter in granules, some is sure to run off in the buttermilk.

A. Mrs. A. Kinney, Grandview : Use a strainer dipper and you will at once overcome this difficulty. Also the Lever butter worker is a very labor-saving device for the home dairy. We also prefer the revolving churn to the old-time friend.

Q. What can I do with cream that I have churned for a day and cannot get butter from ?

A. This difficulty has been overcome by heating the cream to a temperature of one hundred, and churned at that temperature. A professional butter maker at one of our meetings said, "Heat the cream up to one hundred and sixty degrees, then take it down to eighty degrees in about twenty minutes, and churn at that temperature.

Q. What is the cause of this trouble ?

A. Not having proper feed, cold and badly ventilated stable is thought to be the cause in many cases.

Q. Would you advise putting four gallons of milk into two creamers ?

A. No, not unless your creamers are small.

Q. Do you use a starter to ripen cream ?

A. No, not latterly, as I found I understood my cream better without the use of a starter.

Q. What can I do with hard churning cream ? Sometimes I cannot get the butter at all; then again it breaks, but is in such small particles I cannot gather it together.

A. Probably one cause may be churning at too low a temperature; also there may be cows in the herd which have been long in milking. The latter cause is oft-times remedied by adding nearly half as much water as you have cream, and at the same temperature. Then turn the churn a short time and let stand for say fifteen minutes ; then draw off the water. This lady in trouble used no thermometer. We many of us know from past experience that mother's finger was not very accurate in determining temperature. Use a thermometer; we are much more sure of what we are doing then.

Q. Why do you prefer churning from thirty to forty minutes rather than having the butter only ten or fifteen minutes in coming.

A. There are three things to be considered—the richness of the cream, the temperature of the churning and the amount of butter fat remaining in the buttermilk, The lower temperature that we can possibly churn at gives a better grained butter and a more exhaustive churning. The best results cannot be obtained if the butter comes in less than thirty minutes. We churned at a temperature of sixty-five in winter. This was creamer cream.

Q. Is ensilage good food for dairy cows ?

A. We have had no experience with ensilage.

Q. When offering a brick print of butter for sale should it weigh one pound ?

A. Yes, the same as a bag of potatoes must weigh ninety pounds.

Q. Do you think the one-pound print the most desirable way of making up butter ?

A. I think it less work than weighing and forming into one-pound rolls; if there is any difference it is given to the prints for cutting for table use.

Q. Have you any theory whereby turnips can be fed to the dairy cow, and not give the butter a turnip flavor.

A. We have not; we decided some time ago that turnips had no place in the rations of a dairy cow.

Q. What roots did you prefer ?

A. The sugar beets and mangels.

Q. Is it better to use pans in the summer, if you have not ice to use with the creamer ?

A. Yes, as you cannot secure the best results from creamers without the use of ice in both summer and winter. I met one lady this winter who kept her creamers sitting on the back verandah on a bench with no water or ice near them, and expecting the cold wind around the creamers was a sufficient change of temperature. When the milk is brought in from the stables in the winter it has oft times cooled by being mixed in cold tin pails. Heat it to a temperature of 100 degrees, also having the creamers warm, then plunge at once into the cold water, packing the ice closely around the creamer. Cover it closely and warm, leaving ventilation at the top.

Q. Will it pay to buy a separator where only eight cows are kept ?

A. Yes, it has been proven so. (A voice in the audience) : We have only eight cows. Last year we bought a separator and it half paid for itself last summer.

Q. Do you advise using ice on butter when taking to market in the summer ?

A. If you can possibly get along without ice we think it better to keep it off of the prints. The butter box, with separate apartments for ice, is the most convenient for summer use.

Q. About how much butter color should I use for one gallon of cream ?

A. About ten drops.

Q. Why do you prefer keeping cream in tin rather than crock ?

A. The crocks are porous, the tin can be kept perfectly pure and sweet.

Q. How long do you allow the butter to stand after salting before printing ?

A. At least from twenty minutes to one hour.

Q. Do you place the creamery butter higher than farmer's butter ?

A. Let us see. Apparently to-day creamery butter is taking first place. Farmer's butter made at home should stand favorably side by side with the best creamery butter that can be produced. Having control of every detail in the home dairy they can equal, nay, rival the creamery butter. The butter makers to-day in our creameries have much to overcome in order to bring forward this article to take a high place. We hear of some creameries having closed. Why ? Because they cannot secure pure-flavored milk.

CARE OF MILK FOR CHEESE AND BUTTER MAKING.

By F. F. Kline, Lakefield.

To my mind there is no more important subject than the care of milk from the time it leaves the cow until it reaches the factory. This subject has been lectured upon and discussed at nearly all the Farmers' Institute meetings and Dairy Conventions held in the province for years past, and still, I believe that there is no part of the work in connection with the dairy business that has been so much neglected. We often hear of a factory having some off-flavored cheese, or a creamery having some butter with a turnip flavor. Now, what is the cause ? Some patron has been sending a can of tainted milk. Why should this be ? You will find individual patrons all over the country who never send a can of tainted or bad-flavored milk from the last of May until the 1st of October. And so the question has often occurred to me, what is the reason that a majority of patrons can send good, clean, sweet-flavored milk, and a few nearly always send the other kind, which is not desirable ? In this intelligent age it should not be necessary for any maker to inform his patrons how they ought to carry for their milk. For instance, a patron sends a can of milk to the factory. The maker rejects it. What is the result ? The patron's anger begins to rise, and he declares that the maker has often taken in just as bad and worse, and that if the maker will not take it in he will take it to another factory. Now, is this doing us, as makers, justice ? I should think that all patrons would like to see their individual factory make the best cheese and butter and get the highest price. But, in order to get these they must have the best factories, good makers and the best milk. When a buyer comes around to inspect cheese or butter he does not ask the maker if they are first class, but he will satisfy himself first as to the quality. If the goods come up to the standard well and good, but if some of the cheese be rejected because the flavor is bad who should be to blame, the maker or the patron ? I leave this for you to judge for yourselves.

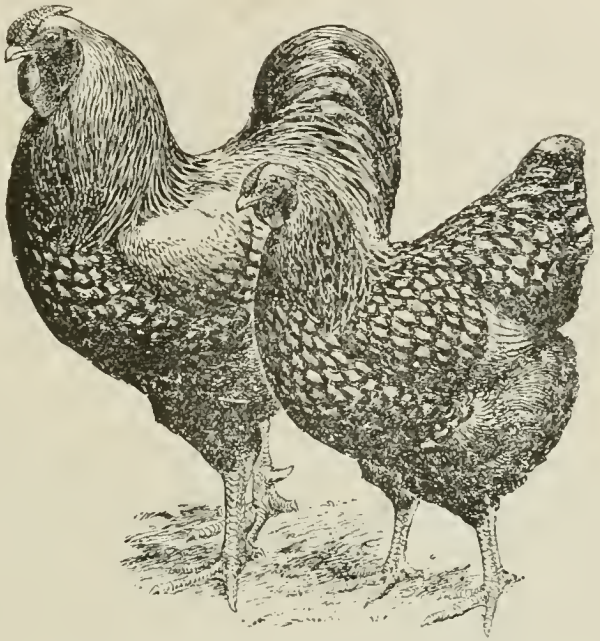
Cows Should be Healthy. Now, in regard to handling milk, we take it for granted that all the cows are healthy and having abundance of good water and plenty of salt. In my opinion a great deal of the gassy milk delivered at the factories is caused by cows drinking stagnant water. And then it has not been properly aerated. If the cows are milked in a stable the milk should be removed as soon as possible to where the atmosphere is pure; for no matter how clean you keep your stables there is still a stable odor, and milk will become tainted in a very short time. The stable flavor is one of the very worst which we as makers have to contend with. But I must not exclude the turnip flavor, which is just as bad. Therefore patrons will do us the greatest favor by guarding against it to the best of their ability. If the milk cans are kept on the stand over night it is necessary that the sands are in a place where the air is pure, and not near a hog pen or in the barnyard. By aerating the milk we remove the animal odors in the hot nights in summer. In my opinion, if thoroughly aerated, either by dipping, pouring or aerating, it is not necessary to use water, but if water is used the milk should be well cooled before placing in water. Hence it is of importance that the stands and cans be in a clean place where the air is pure.

Milkers. Milkers should keep themselves clean and tidy, and the milking should be done with dry hands. I think I good deal has been said in the past about washing palls and cans, but I have noticed nice, clean cans coming to the factory but, oh, they forgot the covers, which are generally laid to one side. All utensils should be washed with tepid water, and then scalded and placed in the sun, as the sun is a wonderful germ killer.

Now, in conclusion let me say that if a patron is going to prosper in the dairy business he must study how he can get the most good, rich milk out of the feed his cows consume; and deliver the milk to the factory in the best possible condition. Pure milk can only be obtained from healthy cows, pure food and pure water, aerated where the air is pure. In view of this fact, then, should not the patrons of factories wake up to the sensibility that they must in order to keep in the front rank of the great dairy business and compete with all the great cheese and butter counries which unload their products on the markets of Great Britain, produce good, clean, sweet-flavored milk.

POULTRY.

One year ago last December the Provincial Winter Fair offered prizes for dressed poultry at their show held in the city of London. They also arranged with Prof. Graham of the Agricultural College, Mr. J. E. Meyer of our Institute staff, and Prof. A. G. Gilbert and his estimable wife of Ottawa to give practical talks and demonstrations on the different phases of the subject, with a view to improving this industry



A Nice Pair of Silver-Laced Wyandottes.
This breed and the Plymouth Rocks are considered the best all-round fowl for the Ontario farmer. Property of J. E. Meyer, Kossuth.

in Ontario. Our eyes were then opened to the possibilities of the poultry industry. Acting under the instruction of the Minister we have this winter held practical poultry meetings and given instruction to more than 5,000 farmers and their wives and daughters.

Meetings were held at the following places :—

St. George	January	9th.
Foxboro'	"	11th.
Havelock	"	12th.
Stoney Creek	"	12th.
Pakenham	"	19th.
Finch	"	23rd.
Uxbridge	"	24th.
Glen Williams	"	24th.
Glen Allen	"	24th.
Norval	"	25th.
Drayton	"	25th.
Bloomfield	"	26th.
Cobourg	"	28th.
Lansdowne	"	29th.
Aurora	"	30th.
Oakwood	"	31st.
Whitby	"	31st.
Oakville	February	8th.
Clandehoye	"	14th.
Simcoe	"	23rd.
Selkirk	"	25th.
Wheatley	"	26th.
Waterdown	March	1st.

Prof. A. G. Gilbert had charge of the meetings in the district east of Toronto. Prof. Graham and G. R. Cottrell covered the western peninsula, while J. E. Meyer addressed the meetings in Division 6, which comprises the ridings of North Grey, Centre Grey, Dufferin, East, South and West Simcoe and North York.

All of these gentlemen agree on the following points :—

1st. Our home markets are glutted with a lot of poor scrawny fowl.

2nd. There is an unlimited demand for plump, young birds.

3rd. Merchants in Toronto and Montreal are paying as high as 10c per pound for chickens properly fed and dressed.

4th. A flock of chickens properly handled would return to their owner at least one dollar a head per year.

5th. A hen is not a profitable animal on the farm after two years of age.

6th. Pullets are the most profitable winter layers, but they must be hatched early.

7th. During the laying period, to get the best results, hens must be made literally to work for their living. Whole grain should be scattered each day in the litter, so that in hunting for it the hens will get exercise, keep healthy and fill the egg basket.

8th. Ground bone is the best form in which animal food can be fed to laying hens. If this cannot be obtained meat scraps from the house and an occasional liver give good results.

9th. Grit must be supplied in some form, as in the absence of teeth it serves to grind the food in the gizzard.

10th. Laying hen must have access to some form of lime from which to manufacture the shells for their eggs.

POULTRY FOR THE TABLE AND FOR EGG PRODUCTION.

By W. R. Graham, O. A. C., Guelph.

(Reported by W. L. Smith, in "The Weekly Sun," Toronto, Ont.)

Among the most successful Institute meetings of the campaign were those held at Whitby on Thursday. The attendance was good, the attention was better, questions were put freely to the speakers, and thirty-three members were enrolled as a result of the day's work.

Significant of the importance of the new development that is taking place in connection with agriculture was the prominence given to poultry, and the interest evoked by the discussion under this head.

The discussion was led by W. R. Graham, superintenedent of the Poultry Department at the O. A. C.

Sees No Danger of Overproduction. "One of the principal sources of profit in poultrying," said Mr. Graham, "is in egg production, and to make the most of this you must have eggs in winter. A winter egg will sell for three times as much as an egg produced in the summer.

"But," Mr. Graham was asked, "with the increase of winter eggs will there not be a tendency towards a levelling up of prices the year round ?"

"I do not think there is much cause for fear on that score," replied the speaker. "The first year I was engaged in the production of winter eggs the best price I received was 40 cents per dozen. I was offered that same price last winter on board cars at Guelph and in Montreal at the same time some sales were made at 50 cents. The highest price I ever heard of being paid in this country. And in the big markets of New York and Boston—despite the enormous increase in production due to the introduction of incubators—prices to-day are not more than 5 cents per dozen below the ruling figure of ten years ago.

How to Get Eggs in Winter. "One of the first conditions necessary to the production of winter eggs," Mr. Graham went on, "are regularity of food and kindness. The dairyman will tell you how important it is to feed your milkers in the same order and at the same time every day. It is just as important to follow this practice in feeding hens. Hens have a better idea of time than you, without the aid of a watch, would have. And if the fowls are not fed when they think they ought to be fed, they become fretful and uneasy, and the result is loss. When I am away from the college flock they will fall off sometimes, despite the careful training given the students who handle these flocks, as much as 25 to 30 per cent. in egg production in two or three days; and it often takes four or five days to bring them back again to their regular yield.

Water as Necessary as in Dairying. A plentiful supply of pure water is another of the essential points in handling hens. The importance of this will be more fully understood when it is stated that 66 per cent. of the contents of an egg is made of water.

Rocks and Wyandottes are the best winter layers, Minorcas, Leghorns and Andalusians are regular egg machines in summer, but in winter the Rock and Wyandotte beat these all hollow, and, taking the average of the year, the heavier fowl will come out even, and sometimes ahead. That is where the advantage comes from keeping the Rock and Wyandotte. They give you eggs at a time when the eggs not only bring the highest price, but when they are of the best flavor.

And now about flavors. There are different causes for these. One potent cause is found in the feed used. If you don't believe this just feed your hens onions for a week. I once fed some chickens onions for a while, and when I killed one of the pullets for the table the carcass was simply so much onion juice. We could not eat it ourselves, and even the pigs, which will eat almost everything, refused that.

Kill Off the Surplus Cockerels. Another cause of bad flavors is in keeping male birds where they should not be. Vastly too many male birds are kept anyway, and the country is sustaining a very large annual loss in feed alone. It costs 75 cents to keep a rooster for a year, and there are about six times the number of these birds that are necessary for the purpose for which they are required, viz., breeding. But this is not the only way in which loss is caused by keeping too many roosters. The eggs are spoiled for table use. When eight or ten roosters are running with 100 hens, and you frequently see this number in barnyards, the chances are that all the eggs produced in summer will be fertile. If these eggs are exposed to a temperature of 85 degrees for six hours the germs will develop: if the egg is then placd in a lower temperature the germ will decay and the flavor of the egg goes.

Our Export Trade Threatened. The worst part of it is that the defect in the egg is not shown by candling, and the defective egg is owing to this, often placed in cold storage with good ones. Since the shells of all these eggs are pourous, one or two bad eggs will give off a flavor that will injure a whole case of good ones. It is, I believe, mainly owing to this cause that such complaint has been made regarding the quality of our cold storage eggs shipped to the old country during the past season. Seventy-five per cent. of these eggs were stale, and if like cause of complaint continues for another year or two our export trade will be ruined. I believe buyers have been buying all that our good eggs are worth, and unless a better quality is supplied next year the prices that have ruled during the past two years cannot be continued.

This matter affects our local as well as our export trade. You may gather your eggs every day, but if these are not used at once, and are kept by the purchaser in a warm place, they will be off flavor before they are consumed.

Fertile Eggs Even When Fresh Are Not A 1. Even absolutely fresh, fertile eggs are not equal in flavor to those not fertile. I have tested this matter, and, as a result of what I have observed, I believe that 75 per cent. of those who eat eggs will detect the difference in flavor between one that is fertile and another that is not. Save for breeding purposes the males should never be allowed with the hens; you spoil the flavor of the egg by allowing this; you waste the feed taken to maintain useless cocks, and you decrease, rather than increase, the egg yield.

"How long can you hold eggs that have not been fertilized ?" asked Mr. McGill of Oshawa.

"I kept half a dozen in my dining-room for thirteen months," answered Mr. Graham, "and although all the moisture evaporated in that time the solid matter that remained was not really bad, even then.

How to Get Fertile Eggs for Hatching. "But," continued Mr. Graham, "there are times when you want fertile eggs, and it is difficult to obtain them. The eggs produced last March were practically all useless for breeding purposes. The trouble was not local, it prevailed all over Ontario. The difficulty was, I think, due to the extremely cold weather, this preventing fowls from exercising and keeping up their vitality. The best results that I have ever had in breeding from March eggs was once when I had a house with a south and southeast exposure, and with free access for the fowls to a pile of horse and cow manure."

"But what would be the effect on eggs for table use of the freedom of the hens with the manure pile ?" Mr. Graham was asked.

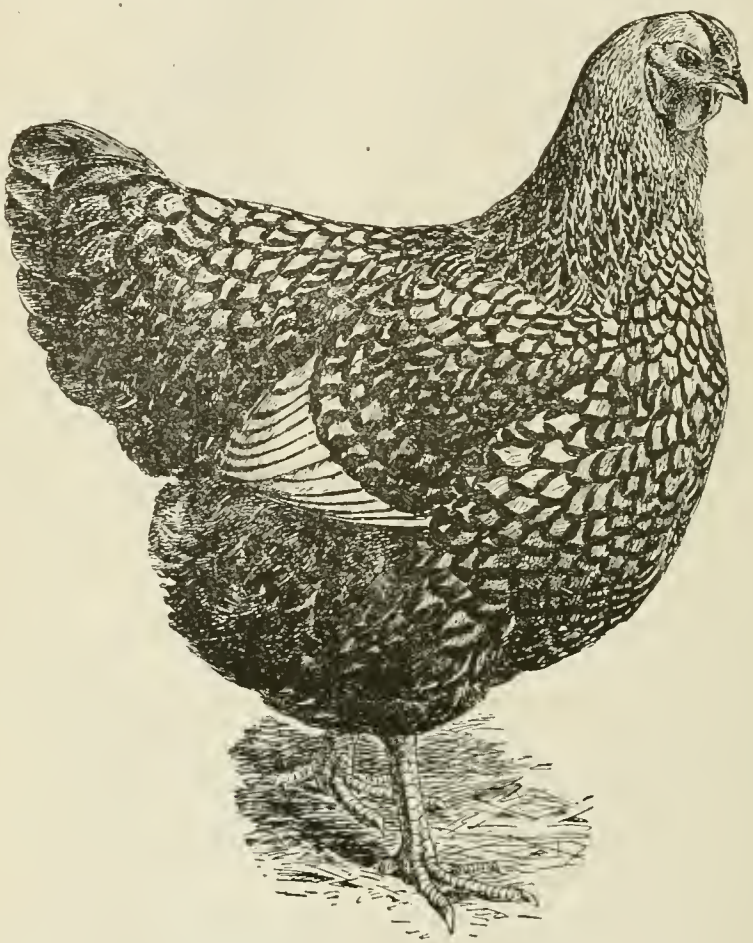
"I am afraid it would not be any too good," Mr. Graham answered.

Mangels and Fertility. "What is the effect on the fertility of the eggs of feeding mangels to hens in the spring ?" asked John Davey. "I had poor results from my sittings when the hens were fed mangels last spring, and when I stopped feeding the roots the results were better."

In answer to a question by Mr. Graham, Mr. Davey said the eggs that turned out badly were produced in March, while those that gave better results came in April.

"I know," said Mr. Graham, "that Will Secker, formerly of Dunbarton, disapproved of feeding mangels in spring for this reason, but my experience does not show any injury from this cause. I tried an experiment along this line with two pens of layers, one lot were given mangels and the other lot did not get mangels. In this test the proportion of fertile eggs was greater from the fowls that got mangels than from those that did not.

"I will tell you one thing that I have observed. We use our breeding cocks for object lessons in the class-room work with students. The cocks are then in sight of each other for perhaps the first time in days, and they at once begin to crow de-



First Prize Silver-Laced Wyandotte.

A good general-purpose breed for the farm. Property of J. E. Meyer, Kossuth.

fiance and get ready for a scrap. This seems to stimulate the vitality of the birds, and we get a high proportion of fertile eggs directly after the cocks are taken back to the pens."

"Then," suggested an auditor, "it would seem as if it would be a good thing when a lot of fowls are kept for breeding purposes to occasionally bring the males from the different pens in sight of each other."

"I think it would," said Mr. Graham, "and I am trying experiments along that line now."

As Long as Combs Do Not Freeze. "How about the temperature required for a poultry-house?" asked another.

"It is all right as long as the combs of the fowls do not freeze," answered Mr. Graham. "And injury to the fowls, even in a moderately cold house, may often be prevented by dropping a curtain from the ceiling in front of the roosting place."

"How do you provide for ventilating your pens?" was another question.

"I have never had a ventilator that worked satisfactorily," answered Mr. Graham, "and now I trust entirely to doors and windows. In moderate weather I allow the door to stand open for some time every day, and feel disposed to recommend opening it a little no matter what the weather is like."

"How do you provide for the escape of vapor where there is no ventilator?" was asked again.

"I admit the advantage that would come from the use of a perfect ventilator—one that would give you ventilation without creating a draft," repelled Mr. Graham, "but I have not yet found one that would do that.

Crowding and Roup. "One of the principal troubles," Mr. Graham went on, "is that hens have too little room in the pen during the day, and are too much crowded on the roost at night. When on the roost they are jammed together, and when on the floor they have not room for exercise. That is one of the most prolific causes of disease, particularly roup, and roup is one of the chief difficulties in connection with poultry production. Although I have read all the roup literature I have been able to lay my hands on, I have not yet been able to find a positive cure for the disease. The wise thing is to try and prevent the disease from getting in. One of the best means of protection is to allow plenty of roosting room. Each fowl should have at least ten inches of space on the perch. Where fowls are crowded together on the roost if you put your hand between the bodies of the hens in the centre you will find the feathers are damp, owing to the excessive heat, causing perspiration. When a hen in that condition gets down into the colder air next the floor you have conditions exactly calculated to cause colds, from which roup springs.'

"Chickens will naturally crowd together in winter time," said Mr. McGill.

"Especially if they are allowed to get into that habit when young," answered Mr. Graham.

"Old fowls will crowd too," said Mr. McGill again.

"So long as the roost is long enough they will not hurt," responded Mr. Graham.

How to Detect Roup. "Where a fowl suffers from roup,' 'the speaker went on, "there is a discharge from the nose, and the odor from that discharge is so pronounced there is no mistaking it. I can tell if there is roup in a poultry house as soon as I open the door. Drafts are one of the chief causes of the trouble. The disease is contagious, too. The discharge from the nose gets into the water the fowls drink, and this creates a regular hot-house for propagating the disease. Unless the healthy fowls have sufficient constitutional vigor to shake off the disease they are almost certain to suffer.

Select Vigorous Birds for Breeding. "This is one point where the importance of care in selecting your breeding stock comes in. Breed only from your strongest stock. One of the evidences of the possession of constitutional vigor is found in the beak. Select as breeder a cock with stout, well curved beak; look, too, for a fairly broad head and a bright, active eye. A good constitution nearly always goes with these points.

"Other points of importance are a broad breast and broad shoulders, with the breadth carried moderately well towards the tail. You have heard of the 'sickle back' in horses; beware of a like defect in cockerels. Select a male with legs well apart and that stands straight on his supports. I have demonstrated by experiment that this leg weakness is hereditary, and I have also proved by experiment that fowls with a good constitution will bear up for days under conditions that cause disease, while the weakly ones succumb.

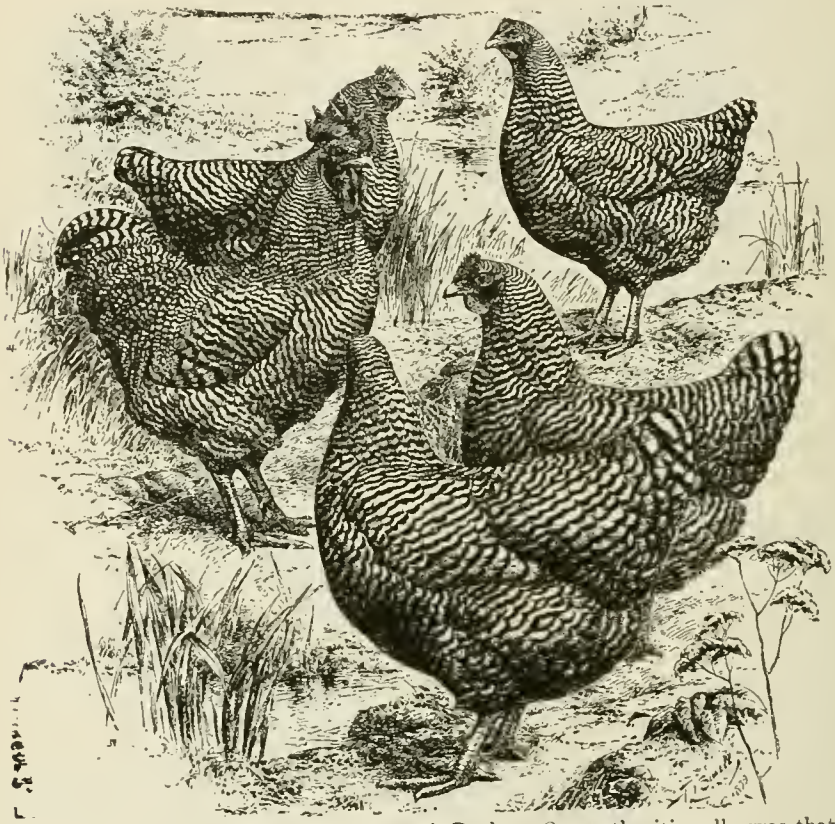
Onions for a Cold. "Where you do find your fowls suffering from colds you will find a couple of raw onions a week a great help. Onions are bad for egg flavors, but they help with a cold in the case of hens, just as they do in the case of people. Coal ashes in the dust bath have a good effect. The ashes go up the nostrils of the fowls and thus cause benefit. In many cases these will cure a mild cold. A little coal oil on top of the water, with no other drink near, so that the suffering fowls are forced to drink the oil, will also prove helpful.

What to do When Roup Appears. "Where you find roupy fowls, isolate them at once. If the house is badly infected, spray it with a five per cent. solution of carbolic acid; and, while the walls are still damp, fumigate with sulphur. Sulphur fumes are of little use on dry walls, but where the walls are damp the fumes are almost certainly fatal to germ life. If roup germs are once firmly planted in a poultry yard it will take

years to get rid of them; they seem to get into the ground. As one precaution against infection we use a pint of crude carbolic acid to a bushel of lime, and spread some of that over on the dropping-board. If you have only one or two fowls affected with roup—unless they are of exceptional value for breeding purposes—I would recommend immediate slaughter and burning of the carcass. In fact, I would be inclined to advise this course in any case, as I do not like breeding from birds that have once suffered from disease."

Mash Night or Morning. Speaking of feeding, Mr. Graham said: "There is a difference of opinion as to whether the mash feed should be given at night or in the morning. Those who favor giving it in the morning say the fowls need something to warm them after the cold night. Our practice is to feed the mash in the afternoon and to rely on other means for warming in the morning.

"This is how we do it. Late in the evening the hens are given a ration of whole grain scattered among litter that covers the floor to a depth of six or eight inches.



A group of well marked Barred Plymouth Rocks. Our authorities all agree that there is no better breed for the Ontario farmer.

All of that grain is not taken up by the fowls at night. In the morning, when the hens get off their roosts they begin to scratch for the remainder, and the exercise warms them up better than any mash would do.

Pulped Roots in the Morning. "The first regular feed of the morning consists of pulped roots, and is given at nine o'clock. In roots I place sugar beets first, mangels second, and turnips third in point of quality. I aim to make roots one-third of the total weight of the ration, and by pulping the roots and making these the first regular feed of the morning I get the fowls to take more of these than they otherwise would. Two to two and a half bushels of roots are required for 300 hens."

Early Feeding in Morning. "Then you think it a mistake to feed hens early in the morning?" said a hearer.

"That depends," Mr. Graham answered. "If I made mash the first feed I would give it as early as possible. But you see the little grain left over from the night before not only keeps the hens going until nine o'clock, but gives them exercise as well. It may be remarked just here that this exercising may be overdone. What is exercise for the Leghorn is work for the Rock. I like to weigh hens every two weeks or so, and if I find them putting on weight I reduce the grain ration somewhat.

Meat Every Day. "At noon," Mr. Graham went on, "I feed cut bone or cooked meat—about two handsful for a dozene hens. By feeding meat every day, and a little at a time, you are less liable to bowel trouble than when you feed a lot at once and at less frequent intervals.

Mash at Four O'clock. "At four o'clock I feed the mash; this is usually made up of bread crumbs, clover leaves, bran and fine ground oats. In extremely cold weather I add a little cornmeal or pea meal. This mash is mixed with skim milk, and the hens get all the want of it. The last feed is whole grain—a handful per bird—and this, as I said before, is not all taken up at night—about half of it will be left over till morning. Briefly, then, my system of feeding is :

"Pulped roots at nine ;

"Cut bone or cooked mash at noon ;

"Mash at four;

"And whole grain last thing."

The Cost of Maintenance. "And what do you figure the cost of feeding at ?" asked Mr. McGill.

"Eighty cents a day."

"Then you must get your feed cheaper than farmers can, if you feed 365 handsful of grain besides all that roots and mash per hen."

"It depends on what you call a handful," answered Mr. Graham. "In our case a peck of grain serves for 250 hens at night and we consider that equal to a handful each. I am satisfied I could bring fifty hens through, feeding in this way, at a cost of fifty cents per hen."

Why Mash is Not Fed in the Morning. Speaking of his objection to feeding mash in the morning, Mr. Graham said : "If you give mash in the morning a few hens will boss the pen and get more than their share; then after their gorge they will go to roost and stay there all day. Where grain is fed in the morning, and scattered in the litter, each hen gets a fair share. When we feed mash at nights we give the hens all they will eat, and then all get enough, and the gorging does not hurt them then because the work of laying is over for the day. There is no danger of the crops freezing. We have a hen house sheeted with matched lumber where this system of feeding is followed, and we have never had any trouble.

Danger in Too Much Grain. "I am satisfied that the majority of people feed too much grain in winter. Where this is done a lot of fowls are lost in spring. If the dead fowls are opened their livers will be found twice the natural size, and of dark purple color. This is the result of feeding too much starchy food and a lack of meat and vegetable diet. We aim to make a third of the weight of the ration vegetable food and ten per cent. of the whole meat."

Earth for Nesting Eggs. In reply to a question, Mr. Graham said he had experimented with putting earth in the nests of setting hens ; he had set twenty in a row and put earth in alternate nests, and in all cases obtained the best results from those nests in which the earth was.

"Still," said Mr. McGill, "you will often find an excellent batch come from a stolen nest in a haymow. I think that with eggs, as with corn, a good deal depends on the quality of the seed."

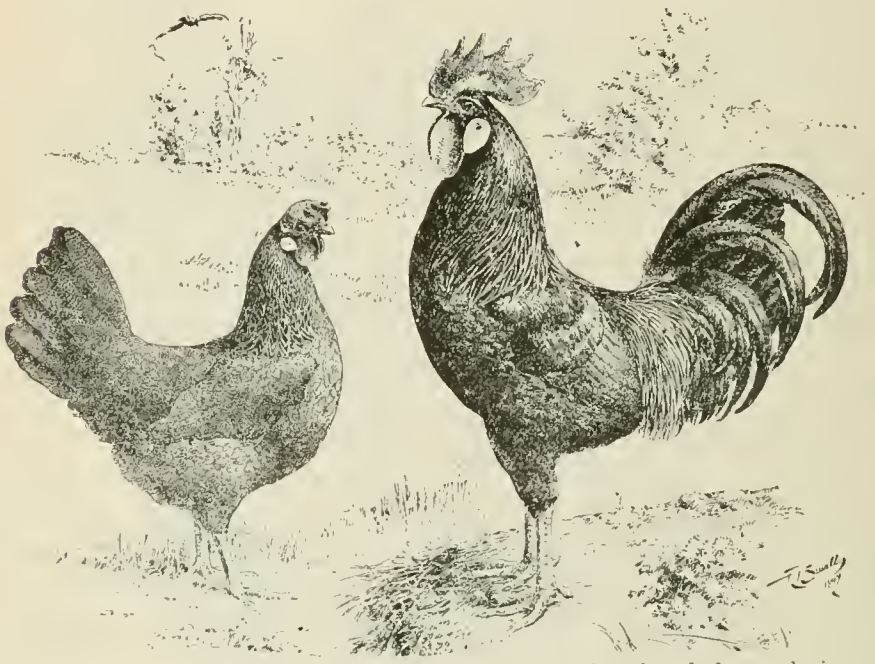
About Incubartors. Speaking of the handling of incubators, Mr. Graham said the incubator should not be opened when the eggs were chipped, as it was necessary for the good of the chicks to retain the moisture. Unfertile eggs should be removed from the incubator as soon as discovered, because they take in but do not give off heat, and thus cause an unevenness of temperature among the hatching eggs. Where the big percentage was made in hatching by machine this was sometimes due to the starting of three machines at once and then placing the eggs with strongest development of germ all in the one machine, selected for the test, before the conclusion of the trial. Still, after all, an incubator would give as large a percentage of chicks as a hen, and the incubator did the hatching when disired.

"A two-hundred-egg incubator would use a gallon of oil per week in weather such as that of last week. The machine that was doing this was in a stone cellar, two feet below and two feet above ground, with the wall banked. "We must remember," said

Mr. Graham, "that the shell of the egg is porous, and that it is therefore as necessary to have pure air before hatching at it is after hatching."

The Fattening Side of It. "There is money in fattening poultry as well as in producing eggs," said Mr. Graham. "But to make the profit it is to have the right type in fowl as it is to have the right type in a beefing steer.

"We made our experiments along this line for the purpose of showing the relative gains with Wyandottes or Rocks and common fowl. The pure-bred pens gained 14, 17, 19, and 23 1-2 pounds respectively, while the common fowls gained 8, 11, 9 and 17 pounds. Moreover, the cost per pound of gain was three cents, in the case of the pure-breds and five cents in the case of the mongrels. We thus made from about 30 to over 100 per cent. greater gains in the case of the pure-breds, and the gains in the case of the pure-breds were made at a little over half the cost incurred in making gains with the mongrels. In buying for feeding I would have more profit and satisfaction out of pure-breds than out of scrubs bought at half the price. In addition to all this the pure-breds sold for more per pound. For choice fowls I was offered by a Montreal dealer 10 cents on board cars at Guelph for all I could produce. One pure-bred made a gain of 3 1-2 pounds, making 7 1-2 pounds all told, and this I sold at 14 cents dressed, or a little over $1.



A pair of Single-Comb, Brown Leghorns. One of the best breeds for egg laying.

Dorking Right in Type, But—"There is no better type of a table fowl than the Dorking, but the Dorking is a natural forager, and does not thrive in confinement. Rocks and Wyandottes, on the other hand, fatten well in confinement.

"In feeds for fattening we have found fine ground oats give better satisfaction than coarse ground. Ground wheat has not proved a success, even where it constituted only a third of the ration. It makes a sticky food. We lost, from indigestion, a twelfth of the birds fed in this way.

"We got our best results from two parts cornmeal, two parts ground buckwheat and one part ground oats. This gave us a greater gain in a given time and at less cost than any other feed.

"A ration that gave very good results was one composed of equal parts of cornmeal and fine ground oats, with a small quantity of potatoes added. Where there are a lot of small potatoes to be disposed of, this will be found a very satisfactory ration.

"In all cases we mixed milk with the meal in the proportion of pound for pound. This was for feeding from the trough. Where we used the crammer the proportion was two pounds of milk to one of meal.

Loss in Moving Fowls. "We found our chickens made a greater gain in the second than in either the first or last week. The slow gain in the first week is due to the excitement and crowding incident to removal from the barnyard where raised to the fattening station. My brother tells me he has known chickens to actually shrink one-fifth as a result of driving twenty miles in a crowded coop on a hot day. For this reason I am inclined to think it would be better for each farmer to do his own fattening, unless fattening stations can be built up so near together that the birds will not need to be driven more than four or five miles in order to reach them.

Crammed Fowls Best for the Table. "There is an advantage in cramming fowls. I had one lot of twenty, half of which were crammed and half not. In every case save one the crammed birds were reported to have plenty of meat, and to be well fattened, while those fed from the trough only had plenty of fat, but lacked meat. There was a difference, too, of three-quarters of a cent per pound in the selling price, and of half a pound per bird in the gains, in favor of the crammed birds. The flesh of the crammed bird is much more juicy and tender, and people who have become accustomed to this class of bird do not care for those fattened in the ordinary way. They can tell the difference, too. I have tried experiments with officers of the College; have tried to unload uncrammed birds upon them, but in all cases those who ate the fowls noted the difference.

Color of Flesh Controllable. "The color of the flesh of the carcass is a matter of importance. So far as my experience goes, the demand both here and in England is for a creamy white flesh. You can largely control the color by feeding. Cottonseed meal, yellow carrots and yellow corn will give a yellow carcass, while ground buckwheat and skim milk, ground oats and skim milk or a mixture of these, will give a creamy white. I tried five or six experiments with full brothers along this line, and they all turned out the same."

A Curtain in Front of the Roosting Place. F. C. Hare, speaking at the Farmers' and Dairymen's convention, held at Fredericton, N.B., on winter egg production, said it was a good thing to have a curtain in front of the roosts and to drop this down at night. One man, whose hens had not been laying in winter, adopted this simple device, and in three weeks' time he was getting forty eggs per day. Mr. Graham, of the O.A.C., it will be noted by the report given of that gentleman's address at Whitby, also commends this practice. Mr. Hare advised against using too much soft food, and urged the use of plenty of green food, such as mangels, turnips and cabbage.

A Poultry Course. Superintendent Graham, of the Poultry Department of the O.A.C., says that anyone who wishes to take a special poultry course at the college may do so on payment of a fee of $5 for tuition. Students taking this course may stay as long or as short a time as they wish, but they have to pay for their own board, and do not receive payment for any work they may do. There are scores of young men in the Province who could not do better than take a month's poultry course this winter. There is no more profitable industry, in a small way, than poultrying, and no man is better fitted to tell how this business should be carried on than is Superintendent Graham.

POULTRY PRODUCTION.

By Prof. A. G. Gilbert, Experimental Farm, Ottawa.

(Reported by W. L. Smith of the Weekly Sun.)

A Crowded House. The meeting at Uxbridge, held under the joint auspices of the farmers' and Women's Institute was one of the best farmers' meetings ever held in a section noted for successful meetings of this nature. The market hall was so crowded that a number were compelled to stand, and, at the close of Mr. Gilbert's lecture, many of those present crowded to the platform for the purpose of obtaining, in an informal way, additional information upon points raised during the address.

Poultry Give Quick Returns. "One of the principal advantages in poultry production," said Mr. Gilbert, in commencing his Uxbridge lecture, "is that returns come quickly. With the exception of strawberries there is practically no line of small fruits on which you can begin to realize inside of three years; a milch cow does not approach her full power of production short of three and a half years; apple trees do not begin to bear freely short of seven or eight years; and if you go in for forest reproduction, a realization upon the investment does not come inside the life of half or even a whole generation.

"How is it with the hen? Three weeks from the setting of the hen you have a batch of chickens; from four to four and a half months from hatching the cockerels are ready for the market, and in five to five and a half months the pullets will begin to lay.

Big Returns From Small Investments. "Now what about the returns from these articles when produced? I am disposed to under, rather than overestimate in this matter. A very moderate estimate is 100 eggs per hen per year for sale or use. These eggs at one cent each are worth $1.00 all told. In addition to this you should have a setting of eggs that would give you eight chickens, which, at 10 cents each, would be worth 80 cents. This makes a total return of $1.80.

"What does it cost to produce these returns? This is just where one marked advantage of poultry raising comes in. A great deal of the feed used to produce poultry on the farm is made up of what are, comparatively speaking, waste products—small grain, table scraps, green bone, etc.

"But we have made experiments at Ottawa with a view of learning just what the cost of production is where foods have to be purchased—the cost of the grain used, being placed at a cent a pound. Even on this basis, the cost of feeding a hen, as shown by actual experiment, was not beyond 75 cents per year. This left a profit of at least $1.00 per fowl. And this was allowing only a cent each for eggs. How much greater would the profits be if eggs were produced in winter, when 25, 30 and 35 cents per dozen can be obtained in the Toronto or local markets? In that case the net profits would run up to $1.50 to $2.00 per year.

Value of Hen Manure. "And the eggs and chickens are not all that the hen gives you. There are the droppings as well. An experiment, with a view of determining the value of these, was conducted at the Raleigh (S.C.) experiment station. This experiment showed that the commercial value of the droppings of the hen was equal to at least half the cost of maintenance. This experiment showed that the amount of nitrates in hen manure was 67 to 11 in the same bulk of farmyard manure; that the proportion of phosphoric acid in hen droppings was 48½, as compared with 6 in barnyard manure, and that the proportion of potash stood at 41 in the former case, as against 10 in the latter.

Danger of Overdoing It. "The danger in these things is that the returns look so tempting, people are apt to overdo it at the start. Nothing is more important than a consideration of the question of how many hens a farmer should keep. The answer is simple—not more than he can properly attend to without infringing on other departments. The moment he does that, he goes beyond the limits of the one who maintains poultry as a side line to his general operations, and becomes a specialist; and a specialist requires special knowledge and special equipment.

Enormous Possibilities in the Hen. "Even as a side line poultry is important. Have you ever thought how important? Prof. Robertson has told us there are 650,000 farmers in this country. If all those farmers keep an average of 100 hens each, and make an average profit of $1 per hen, how much does it all amount to in a year? Sixty-five million dollars. Even if the average profit was only 50 cents per hen, the total would amount to $32,500,000. This return would be largely a new creation—it would not supplant something else, but would be in addition to present production in other lines.

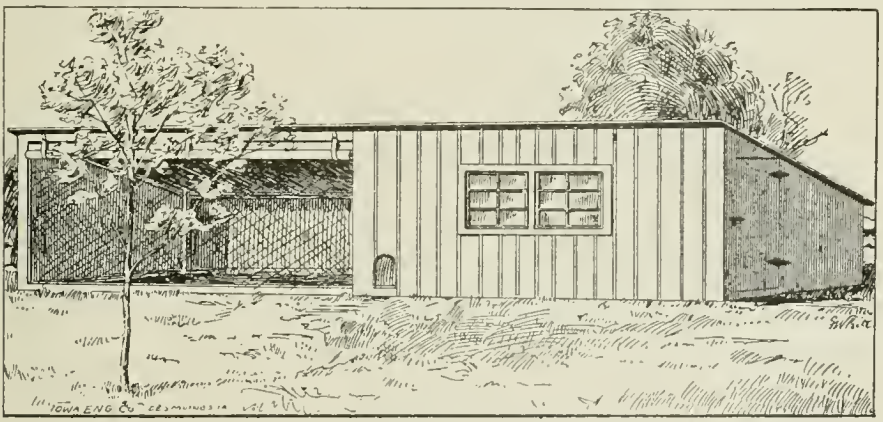
Profits Per Acre. "Farmers usually calculate their profits by the acre. Well, take it on that basis. In the case of ordinary crops, farmers think they are doing very well if they make a profit of $20 or $30 to the acre; if they make $50 they are more than satisfied. Well, now, suppose you have 50 hens to the acre; this is a very moderate estimate, because we keep 100 to the acre. But with 50 hens, and a profit of $1.00 per hen, the total per acre would be $50; even if the profit goes down to 50 cents per hen, there is a return of $25, or above the returns the great majority of farmers get from their grain crops. In any case, allowing the number of hens to the acre, that may be easily maintained on that area, and, putting the profit per hen at the lowest figure, the returns from a poultry farm of 10 to 20 acres would give a very nice income for a family.

All Depends on the Egg Crop. "But the whole thing depends on the egg production. The hen was originally a wild fowl, and in its wild state it produced just enough eggs for the propagation of the species. The domesticated hen, under favorable conditions, will produce 120 to 140 eggs per year. Between the number of eggs required to propagate the species and the yield of 120 to 140 eggs, is a great gulf. And the bridge that spans that gulf is 'Know How.'

Building a Hen House. "In beginning the work of poultry production, we must consider the house. There is no cast-iron rule in house-building, but there are a few general principles to be borne in mind. A dairyman will tell you that a milking cow should be disturbed as little as possible; that every time you needlessly annoy a milker, you reduce the volume of your milk product. Precisely the same rule applies in the case of the hen; unnecessary disturbances mean fewer eggs in the basket.

"There is another principle to be remembered; fowls in their natural state do not breed large flocks. We must approach nature's conditions. To this end our domestic hens should be kept in compartments with 15 to 20, and certainly not more than 25 hens, in each compartment. You will get more eggs from a few hens in a small compartment than you will from a large number. Each hen should have a space of at least six square feet. With sufficient room, properly equipped, and with proper feeding, the return in eggs is sure.

Study Convenience. "In constructing a house, arrange for a passage along one side. Next this passage have your nests projecting into the passage, and about two and one-quarter feet from the floor level, with a lid on top. Above the nests, inside the compartments, have a platform, with roosts above, allowing the droppings to fall on this platform. Below the nests have a slat-work next the passage, with water tins and feeding troughs in front. The hens will then be able to go under the nest boxes, put their heads through the slats, and eat the mash or take the drink put for them in the troughs placed on the compartment side of the passage. On the floor of the compartment, where the hens are, have a litter six or eight inches deep, into which the grain ration is thrown. By the adoption of this plan you can feed and water the hens, collect the eggs, and scrape away the droppings, without leaving the passage. Thus disturbance of the fowls will be reduced to the minimum.



A cheap and convenient Poultry House with Scratching Shed. Property J. S. Jeffrey, St. Catharines.

Windows to the South. "This passage should be at the north end of the building. On the south side have large, square windows, that will let the sunlight directly into the compartments where the hens are, and have your dust boxes—containing soft wood ashes, dry earth, or earth and ashes, with about a quarter of a pound of sulphur added—where the sun will fall full upon them.

"The best material for flooring is wood. Cement is cold, and with an earth floor the heat from the bodies of the fowls will form a vapor on the floor. Where this occurs you have dampness, and with dampness you will have dying fowls, and an end to the egg production.

"In addition to the dust box you should have another box, about 8 x 4 inches, divided in two, and containing bits of plaster, broken delf, and grit. This provides the means for enabling the fowls to digest their food and furnishes the lime that assists in shell production. Sometimes you will find eggs coming with soft shells, or almost without shells at all. This shows that the hens are short of shell-forming material, and if you do not make good that shortage you will very soon find the hens forming the egg-eating habit, and then you are done for."

Feeding Eggshells. "How would it be ?" asked Mr. Gould, "to preserve the eggshells and feed these back to the fowls?"

"If you could get them in large quantities, it would be all right," answered Mr. Gilbert, "but unless you can do so, I would not advise you to adopt that plan."

Rocks or Wyandottes. "The question of breed comes in, too," Mr. Gilbert went on. "And on that point we are, as a result of experiments at Ottawa, extending over twelve or fifteen years, enabled to speak with considerable authority—that is, as regards the fowl for the farmer. The farmer wishes to kill two birds with one stone. He wants a good winter layer and a rapid flesh former. Barred Rocks and White Wyandottes—the former particularly—fill the bill.

"Let me tell you what we learned by our experiments. We put three pens—White Leghorns, Silver-Laced Wyandottes and Barred Rocks—in competition as layers, and we found that the Rocks fully held their own. We tried another experiment with six hens—Barred Rocks, White Rocks, White Leghorns, White Wyandottes, Black Minorcas and Brown Leghorns—in competition, and in this case the Barred Rocks came out ahead. When I left Ottawa twenty-two Barred Rock pullets were giving twelve eggs one day, and nine or ten the next. Another advantage in favor of the Rock is that you can get fowls of this variety cheaper and more easily than any other breed, because there are more Rocks than any other kind in the country.

Gain of One Pound Per Month. "We have experimented in the matter of flesh-production also. These experiments have extended over a period of fifteen years, and show that a pound of flesh per month can be added to the weight of young Wyandottes or Rocks. The birds may not do this for the early part of the period, but will make up for it later on. We have had birds of these breeds making eight and eight and a half pounds per pair at the end of four months.

"Wouldn't it be of great improvement in present conditions if such fowls were found on all farms? Wouldn't it be better to have such fowls for your own eating, for the local market, or for the Toronto market? Well, you may have such chickens, and it will not cost you any more for their production than it costs to produce a mongrel of half the weight. It is true all this means care, industry, and intelligence. But in what line is success attained without all this?

A Means of Utilizing Waste Products. "Now about feeding. One of the great advantages in poultry raising is, as I have said, that so much of the waste productions of the farm can be utilized in feeding. Small grains, which cannot be sold in the ordinary way, can be made use of. Potato peelings and household scraps generally can also be utilized. An excellent mash can be made by steeping clover, cut in quarter-inch lengths, overnight; in the morning this, potato peelings, scraps and small grains can all be boiled together. A little bran, a dusting of black pepper and a pinch of salt may also be added. This whole mass should not be like dough, but crumbly. A mash of this kind may usualy be fed thrice a week—although no cast-iron rule can be laid down in this case either—and in the proportion of a quart to ten hens. Pullets, if laying well, will stand more of it than old hens; if there is a tendency to lay on fat rather than lay eggs, the feed should be given moderately. There is more danger of putting too much fat on pullets before they being laying than there is afterwards. If you see a hen go into a corner and begin to meditate on what a kind mistress she has, meanwhile forgetting to lay eggs, it is an indication that you are overdoing the fattening part of it. After the mash has been fed in the morning, throw a handful or two of grain among the litter to keep the hens scratching, because exercise means eggs.

Meat on Odd Days. "On the days that meat is not fed, boiled cow head or a boiled sheeps' head or liver should be substituted. Keep this up regularly, however, as otherwise the hens will be apt to eat the eggs in order to satisfy their craving for meat. The afternoon feed should be a generous allowance of whole grain, thrown into the litter. A little grain may also be fed at noon if the hens are laying well. Vegetables should be before the fowls all the time and green cut bone—you can buy the bone at half a cent a pound—should be fed occasionally to furnish phosphate of lime for shell, and meat for egg production.

The Good Die Young. "Do not keep any hen beyond two years, particularly of the Asiatic, Wyandotte or Rock variety. They develop the sitting habit, and take a long period for moulting. A hen should be through moulting by the end of August or the beginning of September. By putting a ring on one leg of the year olds, and rings on both legs of the two year olds, you can tell at a glance those that have reached the age limit.

"A dairy cow should not be chilled by drinking cold water. Neither should a laying hen. You lower the vitality by doing so in either case, and so reduce the product obtained.

May for Chicks. "The best time to have the chicks come is in May. Leave the little ones with the mother until 'nest ripe'—or about twenty-four or thirty-six hours.

Then put the chicks in a basket and give the mother liberally of food and drink. Give he chicks no food for the first day, but when feeding does begin, feed every two hours or so—a little at a time. Make the first feed of stale bread, broken up into dry crumbs. Afterwards give stale bread and milk, not sloppy, but crumbly. This is a good feed, by the way, for turkeys also. Granulated oatmeal will make a suitable mash, about the eighth or ninth day. Giving young chicks cornmeal and cold water will cause acute indigestion, and they will die off like flies. Giving whole grain too soon to chicks is as bad as feeding steak to children. About twelve or fourteen days after hatching they may be given a little whole grain at night.

The Critical Period. "The first five weeks cover the most critical period in a chicken's life. They are then making bone, muscles and feathers very rapidly. All this causes a serious drain on the chicken's vitality, and if it suffers a check then, it will never recover.

Eggs Wanted Even in Summer. "It is not only in winter there is a demand for absolutely fresh eggs. There is a demand in summer also. In fact, my experience is that it is more difficult, in cities to obtain a supply of really well-flavored eggs in July than it is in January. I have known cases where eggs have been purchased from grocers in mid-summer, half of which were of objectionable flavor, and the other half positively bad. This is not all due to dishonesty on the part of farmers—it is not all owing to the action of people knowingly sending stale eggs to market.

One Cause of Bad Flavors in Summer. "I will tell you one cause to which is due the development of objectionable flavor in so many summer eggs. Summer is the natural breeding season of the fowl, and eggs—where males run with the hens—are then strongly fertile. There are also a lot of broody hens about at the same time. Now, what follows when, as is usually the case, eggs are gathered late in the evening, or possibly, only once in two days? One hen lays an egg early in the morning; another follows suit later; perhaps a third or fourth or fifth comes and lays in the same nest. By this time the first egg is getting pretty well warmed up. Then a broody hen comes and occupies the nest until evening or next morning. What is the result? Foster and Balfour tell us that some development takes place in the germ of the egg with eight hours' covering. If an egg in that condition is taken to market, the cell will be ruptured in handling, and then decomposition sets in, and the flavor is ruined.

How to Avoid All This. "As a remedy, collect your eggs once or twice a day, or better still, keep the males separate from the hens, and sell not less frequently than once a week. In any case make it an absolute cast-iron rule that no egg shall be sold unless you are absolutely certain of its positive freshness.

"Another thing: Don't keep all the big eggs at home and send all the little ones to the store. Don't even put in six small ones and then six big to balance. The buyer will judge the whole by the smaller ones. Have your eggs of even size and inviting appearance.

Market for Chickens. "Is there a market for your chickens when produced? Undoubtedly. There is a large local market, and an almost unlimited demand in England. One firm in Toronto say they could sell ten tons a week in the old country if they could but get the material with which to meet the demand. In one case an order for 40,000 tons went to the States, because it could not be filled here."

There is Money in Chickens. "I am satisfied," said Mr. Gould, at the conclusion of the lecture, "that there is money in this industry for every man who is adapted for the work."

Fred. Wilkinson said he had cleared $1.00 per head on his fowls last year. "I am satisfied by my experience," said that gentleman, "that there is more money in poultry than anything else."

And this opinion is borne out by what Mr. Snedden of Almonte said some little time since. Mr. Snedden said he was making more out of 200 hens than from ten cows.

President Cullis, of East Victoria Institute, is satisfied with hens, too, and may well be. He keeps his house going in groceries, etc., with the output of eighty to ninety hens.

A PLAIN TALK ON POULTRY RAISING.

By G. R. Cottrell, Milton.

(Reported by the Superintendent.)

Though a young man, Mr. Cottrell has had a vast experience in the poultry business. He breeds Brown Leghorns and Barred Plymouth Rocks. He has his hens commence to lay about the middle of January, when eggs are a good price, and he sells all his fattened chickens to Toronto commission merchants at ten cents per pound. When asked what breeds were best for the Ontario farmer, Mr. Cottrell replied, without hesitation, "Plymouth Rocks or Wyandottes." These are what are known as American breeds, and have proved themselves to be the very best all-round birds for our ordinary farmers. They are a good size; are good layers; mature early, and are quite hardy.

Feeding for Eggs. "Are there not breeds that are better layers?" asked a member of the Institute. "Yes," said Mr. Cottrell, "there are some breeds that will probably lay more eggs in the year, but, after all, egg laying is a matter of individuals rather than breeds. By this I mean that hens are like cows. You know that in some dairy herds when you come to apply the Babcock test you find that some of the cows are more valuable than you imagined, while others that you thought were all right are scarcely paying for their keep. You know in that case which calves you would rear for dairy purposes. So it is with chickens You must, by the use of nest boxes, find out just which hens are laying well, and which are not. Then weed out those that are not paying for their keep, and keep for hatching the eggs of those hens only that are producing the largest number of eggs."

"Is it desirable to have hens lay all winter?" some one asked. "That just depends," replied Mr. Cottrell, "on what you purpose doing with the eggs. If the eggs are all to be sold, I would have the hens laying their best when eggs are highest in price, which is usually November, December and January. If, however, the eggs are to be used for the raising of chicks, I would pursue a different course. After a hen has laid forty eggs, only a small proportion seem to be fertile. Therefore, if you want eggs for hatching in March and April, I would not start hens laying before the middle of January."

"How do you make your hens lay in winter?" some one asked. "I find no trouble at all," said Mr. Cottrell, "in this respect. I keep my hen house clean, the walls whitewashed and the chickens free from vermin. I allow eight square feet for each hen and give them plenty of room for scratching in the day time. The hen house should not be too warm, about 45 degrees Fahrenheit being the proper temperature. Where you have a large room, and find the temperature falls too low in severe weather, you should place the roosts all close to one wall, and arrange a curtain so as to drop in front of the chicks, thus shutting them off into smaller space during the night. In this way you keep them quite warm while roosting. During the day time they will keep themselves warm in the scratching pens."

In reference to food, Mr. Cottrell stated that he fed them nothing until about 3 o'clock in the afternoon, when he gave them a liberal supply of bran and oatmeal mixed, in the proprotion of two parts bran and one of oatmeal. After this was eaten up, he then scattered whole wheat among the straw and chaff in the pen, and made them scratch for it. "It is necessary to keep them at work," said Mr. Cottrell, "if you want them to lay eggs. Too many farmers make the mistake of believing that hens will lay if given plenty of food. Too much feed causes them to put on excessive flesh, and they become lazy. They may not scratch much that night, but coming from the roost hungry next morning, they will spend the entire forenoon scratching for every grain that may be in the straw and chaff."

"How about animal food?" some one asked. "They should have a little," said Mr. Cottrell. "Ground green bone is probably the best, but as bone cutters are more or less expensive, the average farmer has got to find some substitute. I buy cows' heads at fifteen cents apiece; boil them thoroughly, and throw into the chickens to pick to pieces. I also hang up a liver once or twice a week, in such a way that they have to jump for it. This gives them exercise, and at the same time does not allow them to gorge themselves with one kind of food."

"Two things I would like to emphasize, said Mr. Cottrell, in winding up the subject of egg production. "First, keep only thoroughbred males, and second, each year select eggs for hatching from your best and strongest layers. If you do this you will be surprised in a year or two to find that your flock has increased in production 1, 2 or even 500 per cent."

Chickens for Market. Chickens are prepared for market in four different ways,' said Mr. Cottrell. "First, the farmer makes up his mind that he will sell a dozen hens. He goes to the barnyard and takes those that are most easily caught. This class constitutes the bulk of chickens that are offered for sale on our local markets to-day. Second, the farmer's wife selects the chickens that she wants to kill, puts them in a pen by themselves, and feeds them for a week or two (usually on grain) before killing. Third, the chickens are selected from the flock in the same way, but are put in close boxes or crates, and fed soft foods for three or four weeks before they they are killed. Fourth, the chickens are treated exactly as last lot, but in addition they are forced to take their food by means of a cramming machine for a week or ten days after they have shown evidence of being tired of taking their food in the usual way.

"Of course the first method has nothing to commend it. Where the chickens are picked up haphazard from the barnyard there will be no uniformity. Most of them from having to hunt their food, or from being loose and chasing grasshoppers, etc., will have developed hard muscles, even in the younger birds, and they will be in the very poorest shape for table consumption.

"The second method of shutting them up in a box has much to commend it, but they are apt to take to feather picking for lack of proper mixed diet.

"The third form is probably the most desirable where the birds are shut up in close crates, absolutely without exercise, and fed on soft food. The muscles become soft, and the whole flesh tender and nutritious. Enough fat is added to make them plump and present a good appearance in the market. The flesh does not tear so much in plucking, and the actual gain in weight more than repays for the time and labor spent on them.

"The cramming process has much to recommend it, but as it has not become universal, and most farmers have not this machine, it is hardly worth discussing now."

A Practical Demonstration. At this stage Mr. Cottrell donned his overalls, and, in the presence of the Institute members, gave a practical illustration of killing and plucking a chicken. Before proceeding, Mr. Cottrell stated that for our home markets the trade demanded that the chickens be bled. The best way to do this was to take the chicken's head in the left hand, open the mouth by slipping the thumb into it, and with a sharp, narrow-bladed knife, penetrate the brain through the roof of the mouth, then, by cutting the jugular vein in the neck just back of the ears, the deed was accomplished. Mr. Cottrell explained that the moment the brain was penetrated, all sensation ceased. There might be some flapping of the wings afterwards, but it was explained that this was due to the involuntary action of the muscles. For the British market the trade demands that the neck be broken, but the bird be not bled. Mr. Cottrell illustrated this by using he bird he had in his hands. By holding the bird's head firmly in his right hand and grasping both legs in the left, a steady pull soon dislocated the neck. "Hold the head still," said Mr. Cottrell, "and pull only with the left hand. In this way you will never pull the chicken's head off, which you would frequently do if you were to pull the head and hold the body firm." As soon as the neck was dislocated, Mr. Cottrell commenced to pluck, first on the back, then on the breast and legs, finishing up on the wings and neck. The whole operation did not take more than five minutes, the bird being completely plucked before the flesh was cold.

In answer to a question, Mr. Cottrell stated that it was no trouble to get ten cents a pound for properly fed birds on the Toronto market. There was a demand for both yellow and white meat. For the old country trade, however, they would take nothing but white meat, whereas in the American market, notably Boston, the preference was decidedly in favor of yellow. "Can you influence the color by feeding?" some one asked. "Yes," replied the speaker, "you can make a white-fleshed fowl yellow in ten days by feeding yellow corn, and, on the other hand, you can clarify the skin and make it much whiter by feeding skim milk and oatmeal."

PRACTICAL POINTERS ON BREEDING POULTRY.

By W. R. Graham, B. S. A., Manager Poultry Department, O. A. C.

Like breeding other kinds of live stock, there are certain conformation that are desirable, and are sought after, more or less, and there are other shapes which are not desirable.

It is not the purpose of this article to go into the detail of breeding fowls, but more particularly to try and show that there are vast differences in the shape of different representatives of the same breed; some of which we consider desirable, while others are not what one would wish to use in a breeding pen.

From observation and study we have learned that birds of a certain type or shape have usually a good constitution, and have the ability to make good use of the food, while other birds representing other types are more or less lacking in vigor and in feeding qualifications.

Take, for example, cut No. 1. This is the cut of a Barred Rock cockerel, which has a very desirable conformation. You will notice that the beak (bill) is short and stout, being well curved, also that the head is moderate in width and the eye bright.

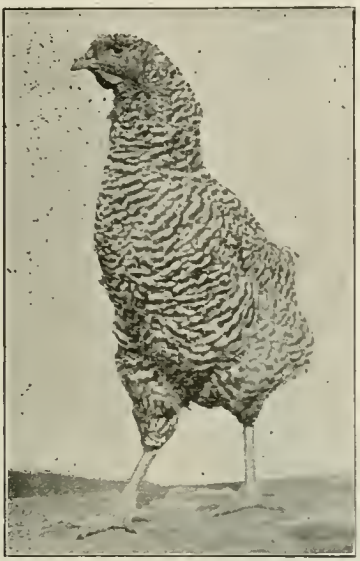
No. 1

These are all indications of constitution. Now, compare this head with that in cut No. 2. Here you see a long, narrow head, a very long beak, and a sluggish eye, these are not desirable points. We naturally expect this bird to be lacking in vigor, constitution, etc., which is actually the case.

Again, compare the two birds as to width of breast. We like a wide breast, so as to get plenty of meat on each side of the breast bone; also we must have lung and heart capacity. This, of course, brings a wide back. No. 1 has a fine wide breast, which is also full or prominent. No. 2 is rather narrow in the breast. No. 1 is also deeper. Now, if you were so situated as to be able to examine these birds critically, you would find No. 1 had a very long breast bone, extending well back, also that there was exceptional width between the legs, and, further, that he stood straight upon his legs, the feet being firmly placed upon the ground. No. 2 is very narrow between the legs; the legs also bow toward each other at the joints, and, further, he does not stand straight upon his legs, or, in other words, he is sicklehocked. His breast bone is medium in length. No. 1 has a fair size bone. No. 2 is a little heavier in bone. In width of back No. 1 is far superior to No. 2. In length of back No. 2 has a slight advantage. Here is the weakest point in No. 1, in that he lacks length of back. A very long back is not all desirable; a short back is much better, but a medium length of back is what is wanted. This is necessary to get weight. A short bird must be uncommonly wide to scale equal to a bird with a medium length of back. In size of thigh No. 1 is much larger, and is firmer in the flesh. While the thigh is not the most desirable portion of the bird, yet I like to see a bird with good muscle.

In judging birds from a market or utility standpoint, one must bear in mind that the breast meat is the most valuable. A bird possessing length, width and depth is the one the buyer is looking for. A wide back is pleasing to the eyes, and is also some indication as to the under line, and, further, as to constitution.

I may add that cockerel No. 1 is the best type of a market bird in his class that I have seen for some time, being extra strong in breast points.



No. 3.

No. 4.

Compare once more the cuts of the hens. No. 3 is a long, narrow hen with legs that bow towards each other. She is an indifferent layer and feeder. She has a long neck, a narrow but a moderate beak and eye. She is not constitutionally strong, and has always been somewhat lacking in vigor.

No. 4 is not represented to advantage. She is a fine type in every respect, having plenty of weight, is active, bright and is a fairly good layer. This hen was pronounced by one of the most expert judges in Ontario to be of exceptional fine Rock shape.

No. 5.

In No. 5 we have a rare bird. This hen as a pullet produced 183 eggs in nine months (no record kept earlier in the season), and is further, a fine market bird. Note the stout beak, the active eye, the prominent breast, possessing plenty of width and depth, also the width between the legs. The color of this hen is also very good from a show standpoint. She lacks in bone, also is a little short in the leg for a Plymouth Rock. This is one of the few hens that we can show to advantage to the farmer, the market poultryman, and to the fancier, and have all very well pleased.

BREEDING AND FEEDING TURKEYS FOR MARKET.

By W. J. Bell, Angus.

It is now only an exceptional farmer who does not raise turkeys for market. This has been brought about partly by the demand for them in England, and partly by a better understanding of the best methods of raising them.

I believe the English market is the more profitable one to "cater to." That market requires the very largest and heaviest young birds, and it is an undisputed fact that a large turkey can be produced just as cheaply as a small one. Besides they are taken away just when the weather turns decidedly cold (about December 1st), when a drop of a few pounds in weight occurs.

I have found it almost impossible to add weight to my birds during the month of December. If it is unusually mild, they will do well, but if otherwise, they will stay at what they were. The price may not seem large per pound, but when one takes into consideration the extra month's care and feed, I think it folly to hold birds for the Christmas and New Year's market.

Bronze Turkey Cock. A Prize Winner in Ireland.
Bred by W. J. Bell, Angus, Ont.

A mistake a great many farmers make is in getting male birds from different breeders every year. They seem to have a great dread of inbreeding in any form. Now, if I were breeding for market, I would purchase a male bird from some reliable breeder who practiced—not altogether inbreeding—but "line-breeding," one who could point back to large choice birds produced year after year, and thereby prove his ability to properly mate them for good results.

Turkeys are by nature wild, and the more freedom they have the better. However, I don't like to see the breeding stock roosting on the barn or trees all winter, but would prefer to have them there rather than be compelled to roost in a crowded and warm henhouse. A large shed open to the south or east is a good place, or any large old building, not too warm. They should be given a little food once per day—a variety such as barley, oats, peas and wheat. Let them have free range about the buildings in day time.

About the 1st of April, it is a good plan to place large boxes and barrels in the corners of buildings or any safe place you would like the hen to lay in. All nests should be fixed so that they could be well closed when the young are due to hatch; if left open the first comers will crawl out of the nest and cause the mother to leave before

all are hatched. As the hen lays I take the eggs from the nest and place them in bran, kept in a moderately cool place. Turn eggs occasionally. When the hen wants to set I give the eggs to her—on an average about fifteen eggs. Have had twenty hatch successfully.

Another instance where some make a mistake, especially in northern Ontario, is in breaking the hen off hatching and getting her to lay a second batch. The eggs are then set under a common hen, and I don't believe they ever do as well as under a turkey hen, and late July hatches are generally sickly and unable to stand the early cold. I would advise all to be content with first clutch.

When setting the hen, dust the nest well with fresh insect powder, and three or four days before the young turkeys are due, shake powder over the hen on the nest I wouldn't disturb her to much in doing so. I let the hen go on and off the nest when she pleases while hatching, and when I notice her off go to the nest to see if any eggs are broken, and in case there are any, I wash the balance in luke warm water and put fresh chaff in nest.

Leave the young in the nest twenty-four hours after they commence to hatch, and then remove them to a very large box, if weather is cold, and teach them to eat. Keep the hen with them in a box, and keep them there for one or two days, depending on the weather, but in no case longer than two days. If the weather is warm, I place the young turkeys at once in a V-shaped coop on the ground. Keep plenty of fine gravel around coops and a dry place for them to dust in. Don't neglect to move the coop the breadth of itself every day. The coop confines the hen, and the young run in and out through the lath in front.

Feeding the Poults. There are as many plans of feeding young turkeys as there are days in the year. Some claim that to feed five times per day will derange the system and cause bowel trouble.

It may be the case with some foods, but I will guarantee that it will not do so when shorts are mixed with milk are fed. The first day the poults are fed stale bread soaked in skim milk, and the second day the bread is gradually replaced by shorts, which are mixed very damp, but not sticky. For the first five weeks they are fed five times per day—out of the hand—all they will eat and the balance is fed to the chickens, so that the food is freshly mixed every time. I don't like them to get sour, fermented food. Onion tops and dandelion leaves cut into their food frequently is good, and plenty of fresh water in clean utensils should be kept always before them, also some skim milk or buttermilk to drink every day. This is my treatment for the first four or five weeks.

I then give the hen her liberty and feed the shorts three times per day, but change the night feed to wheat after harvest, and about this time find that the young birds will do with a feed of shorts in the morning. They do not eat much wheat either, but I like to offer it to them in case they fail to get sufficient on range.

I allow all to roost on the fence, but contemplate building a high fence around where they roost to keep them near the house in the early morning, as I have lost a great many by foxes, getting them a short distance from the buildings.

About the middle of October a great many again make a mistake. Their turkeys have been doing fine probably without any food, but at this time the supply on range drops off, and the turkeys go back. They should be liberally fed at this time with corn, peas or wheat. There is no corn grown in this section for the grain, so I find wheat the next best substitute.

Peas should be better than wheat for fattening, but my turkeys refuse the peas if they can get wheat, probably because they have become accustomed to it as a night food.

I think there is a wrong impression about the voracious appetite of turkeys. If you feed them where from 50 to 100 hens have the privilege of helping them to "clean up" what you throw down, I will admit it takes a lot to satisfy them. But feed them by themselves "regularly" and you will surely change your opinion. I would not advise penning the birds up to get more weight, as I find that two or three days' confinement in a house is sufficient to cause a great loss of appetite and a consequent standstill in growth or weight. With a good strain, and this plan of feeding, it is an annual occurrence to have the largest birds of the flock, 25 pounds for gobblers and 16 pounds for hens at six months, and a fair average for a flock, 22 pounds and 14 pounds.

I know plenty of farmers who are now making from $50 to $75 per annum out of their turkeys, and, with the exception of a little care for the first five weeks, they are practically no bother whatever. It must be remembered that turkeys command the highest price of any meat produced by the farmer.

FARM POULTRY.

By Myron A. Gee, Fisherville.

Every farm has its flock of chickens to furnish the family larder with fresh eggs for culinary purposes and chicken for stewing. The surplus goes farther towards meeting the running expenses of the household than the unthinking person gives them credit for.

The report of the Ontario Bureau of Industries for 1899 gives the number of fowl in Ontario at over nine and one-quarter millions, which, according to Prof. Gilbert, should earn a profit of one dollar per head. Add to this amount of fowl killed or sold, one and one-quarter millions, making a total of ten and a half millions of dollars for fowl in our own Province; no mean showing for the neglected, and many cases, down-trodden hen.

Selecting a Flock. The vigor of farm poultry must be kept up in order to have profitable stock, as weak, inbred stock does not thrive or lay well. There is a mistake made in calling for extremely heavy weights in a breed. Select birds about the standard weight for the chosen breed, and get them thick-fleshed and solid. Avoid a knock-kneed or crooked-back bird, and a low comb is preferable in dressed birds. The active, alert hen is the layer. Select eggs from your best layers for hatching, and use pure breeds by all means, as they dress more uniformly, and will give best all-round satisfaction.

The House. A good poultry house has the following qualifications—warmth, dryness, brightness and cleanliness. Have a four-inch dead air space, lathed and plastered, not too much glass, low ceilings, and all furniture moveable. Permanent fixtures are often lice harbors. (A good house could be made cheap by 2 x 4 studding, lathed inside, ceiled outside of studs with cheap lumber; tar paper on two or three thicknesses, and side walls shingled; put paper on sheeting under shingles.

Care of Laying Stock. Give but little feed, and make them take lots of exercise. A very light mash of clover chaff, bran and oats ground fine, mixed stiff, is good in the morning, as it is readily assimilated by the fowl. Do not feed more than a quart to a dozen hens. Feed all grain in litter, and for noon give vegetables and meat in some form. Boil odds and ends of butchering rather than feed to dogs. Keep them well supplied with grit and clean water. The secret of winter eggs is comfortable roosting quarters, meat and exercise. Young hens lay better than old ones, and some strains excel in egg production.

Care of Young Chicks. Hatch chicks as early as possible. The early ones catch the worm for either egg basket or market. Dont' feed chicks until from twenty-four to thirty-six hours old. Then give them stale bread, soaked in sweet milk and squeezed. The best feed we have ever used is corn meal 1-3, bran 2-3, mixed stiff in milk, either skim or whole. Sour milk will not hurt after they are a week or ten days old. Don't let food stand. They will relish mashed potatoes, oatmeal, dry or cooked, for a change, and meat in some form. If they cant' get green grass give them other vegetable food. Don't feed wheat. Keep them busy and growing. The whole secret of successful poultry raising is in the first six weeks' good vigorous growing.

Marketing. The market requires attention if best prices are to be obtained. Don't allow male birds with laying hens, as few people relish the idea of buying eggs with chickens in the shell. Have eggs clean and sorted for size and color. In every town and city in Ontario a person who can guarantee eggs fresh and sweet can command a premium from customers. The cities and tourist trade in northern Ontario would take more of these products if the proper quality was produced. It is astonishing to see the black-skinned stuff that is offered in the cities for sale.

The English market would take ten million dollars' worth of dressed poultry every year. They want a fat, plump bird, four or five pounds weight, and nicely dressed. The Plymouth Rock or Wyandotte fills the bill very well. There is no immediate danger of overdoing the trade, if we only produce the right quality, and at the prices, pure bred stock can be obtained there is no excuse for any person having mongrels.

DISCUSSION.

Q. How do you make fattening crates?

A. Sixteen inches square, with stalls all round, top, bottom and sides, with V shaped trough to put feed in. Make compartments to hold four or five chickens.

Q. How do you keep lice down?

A. By having interior lathed and plastered, fixtures movable, and use coal oil freely on roosts and nest boxes.

Q. Can you make as much per head out of two hundred hens as you can out of ninety ?

A. Yes, if you give them plenty of room and exercise.

Q. What is the best breed of poultry for the farmer ?

A. Wyandottes or Plymouth Rocks. If you want an egg breed, too, keep only hens of that breed, and they will lay only white eggs, and need not be hatched.

Q. Where could I get pure-bred birds of those breeds ?

A. The Canadian Agricultural Press contains advertisements of reliable breeders who would supply you.

Q. What breed and weight suits the English market best ?

A. Rocks or Wyandottes; and four pounds is the best weight, but must be plump. Indian Game or Dorkings are the best carcasses, but the latter breed is tender and the former are poor layers.

Q. Is the cramming machine necessary to fatten them ?

A. No. If you have pure-bred fowls you can fatten them without it. It is a waste of feed to try and fatten scrub fowls.

Q. What do you feed to fatten them, and how ?

A. Feed finely-ground corn, oats and buckwheat; two parts corn and one part oats, and two of buckwheat by weight, with hulls sifted out. Mix soft with skim or buttermilk, and feed them either in crates or confined for two or three weeks.

Q. What is the most profitable breed of ducks ?

A. Pekins.

Q. What care should breeding ducks get ?

A. Don't overfeed. Give laying ducks oat chop and bran and add 10 per cent. meat scraps if you want early eggs. Hatch ducklings as early as possible.

Q. How should young ducks be fed, and when marketed ?

A. Feed them heavily on oatmeal and shorts and milk, and force till two months old; market them when they will weigh from four to five pounds each. Early hatched ones pay the best, as they command a higher price.

Q. Are young ducks liable to lice ?

A. No, but they must be provided with shade, or the sun will kill them.

Q. How do you keep your hen house free of lice ?

A. I spray the hen house with the common little hand potato sprayer, with a mixture of coal oil and carbolic acid. A desert spoonful of carbolic acid to a quart of coal oil is about right.

Q. What would you do to given hens exercise if confined in a house with very little yard room ?

A. R. Thomson, St. Catharines : I would cover floor with chaff, short or cut straw and scatter grain among it and let them scratch.

Q. Is wheat good food to produce eggs ?

A. Yes.

Q. How would you preserve eggs?

A. Either by packing fresh in salt or by using a solution of 5 of water to 1 of water glass.

Q. Would you pick fowl dry or scald ?

A. I would pick dry.

Q. What do you feed for eggs ?

A. In the morning boiled potatoes and carrots mixed with fine ground oats and barley and meal moistened with milk; wheat or small grain scattered in the straw for noon ; then warm corn fed whole before going to roost. At noon I also feed meat scraps, etc.

Q. Would you use an incubator ?

A. Yes, if raising many, but on the majority of farms this is not necessary.

Q. Does it pay to feed ground bone ?

A. Yes.

Q. What would you do for hens eating their eggs ?

A. It is caused largely by lack of meat and green food. You can check them by filling one or two eggs with mustard and leaving them where the hen will be sure to get it.

Q. What varieties of hens are the best for the farmer ?

A. W. C. Shearer, Bright. The Barred Rock is at the top at present as a winter layer, and also for a dressed fowl for the English market, but the Wyandottes are a close second.

Q. Is there no danger of overstocking the market with dressed fowl ?

A. Not for some time to come. We are only supplying a small percentage of what the British require.

Q. Can one make any profit on a small flock of hens ?

A. Yes. I knew a man who gave over his ninety hens to his daughter, who had to keep a strict account of all food consumed and all eggs and poultry sold. Result—Cost of feed, $35.00 ; production, $110.35.

Q. What is the best breed of hens for egg production ?
A. Prof. Gilbert : White Leghorn.
Q. Are they good winter layers ?
A. Yes, when properly fed with cooked food and meat scraps, wheat, barley and oats, and also get some exercise.
Q. Would you keep the male birds amongst the laying hens. that is when the eggs are being sold for table use ?
A. No, unfertilized eggs keep better and remain fresh much longer.
Q. Is the Leghorn not much too small for table use ?
A. Yes, but the Leghorn crossed with Wyandotte or Plymouth Rock makes a very find table bird, maturing much quicker than Wyandotte or Plymouth Rock.
Q. How old should hens be kept ?
A. Not over two years old. Pullets pay best.
Q. What about the Black Spanish ?
A. They are poor winter layers and not of robust constitution. A good cross is made by crossing the Wyandotte hen with the Leghorn male, but never go beyond the first cross.
Q. Could a farmer make it pay to buy an incubator ?
A. No, it will pay better to hatch with the mother hen.
Q. What is the best grain feed for hens ?
A. All the grains grown on our farms, except peas and rye. Wheat is the best whole grain.
Q. How would you prepare clover for fowls in the morning ?
A. Run through the cutting box well cured, second growth clover. Fill a pail and pour boiling water over it. Leave steaming until noon. Mix clover and clover tea with shorts and meal and feed at noon. This makes a fine laying ration.
Q. How much does it cost you to produce eggs in winter ?
A. 9½c per dozen. In summer 4½c per dozen.
Q. Have you any trouble with hens eating their eggs ?
A. Yes. Take the head off an egg-eating hen.
Q. Have you any trouble with sick hens ?
A. Yes. The hatchet is a good remedy.
Q. Have you a dirt floor on your hen house ?
A. No, it is too damp. I have a board floor. If hens are confined there should be six square feet of floor space to each hen. But where the hens have the run of the yard much less space will answer. House should not be more than 15 feet in width. Have it as long as you like. Divide house into pens, 15 in the pens.

A Common Scene on a Good Ontario Farm.

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ANNUAL REPORT

OF THE

BUREAU OF INDUSTRIES

FOR THE

PROVINCE OF ONTARIO

1899.

PART III.—MUNICIPAL STATISTICS.

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE.)

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PART III.—MUNICIPAL STATISTICS.

The following statement is compiled from the summarized tables and gives population, total asessment, amount of taxes imposed for 1899, the amount of debenture and floating debt, together with the amount paid each year by all municipalities of the Province for interest for the thirteen years 1886-98 :

Year.	Population.	Total assessment.	Taxes imposed for all purposes.			Debenture debt.		Floating debt.	Interest paid on loans and debentures.
			Total.	Rate per head.	Mills on the dollar	Total.	Rate per head.		
		$	$	$ c.		$	$ c.	$	$
1899	2,010,748	816,765,473	12,535,284	6 23	15 35	*	*	*	*
1898	2,001,350	809,184,833	12,222,966	6 10	15.11	54,506,372	27.11	6,883,735	2,633,762
1897	1,990,977	803,625,377	12,206,325	6 13	15.19	53,577,475	26 91	6,482,953	2,553,988
1896	1,972,286	814,917,633	12,122,785	6 15	14.88	52,948,275	26 85	6,261,394	2,588,759
1895	1,957,390	821,466,166	12,316,429	6 29	14.99	51,895,991	26 51	5,834,129	2,578,220
1894	1,936,219	826,179,370	12,320,312	6 36	14.91	49,724,587	25 68	6,669,567	2,552,607
1893	1,910 059	825,530,052	12,512,660	6 56	15.17	48,083,243	25 17	6,796,422	2,508,621
1892	1,909,527	825,211,127	11,803,570	6 18	14.30	47,166,962	24 70	6,469,899	2,482,156
1891	1,922,121	818,847,394	11,767,748	6 12	14.37	43,888,853	22 83	7,629,730	2,498,294
1890	1,917,544	798,616,271	10,897,485	5 68	13 65	40,720,985	21 24	8,387,186	2,240,692
1889	1,906,901	761,905,816	10,249.198	5 37	13 45	38,988,332	20 44	6,493,519	2,057,938
1888	1,880,145	748,654,570	9,919,962	5 28	13 25	34,729,527	18 47	6,437,363	1,999,760
1887	1,848,457	717,311,928	9,3 0,113	5 03	12.97	31,943,320	17 28	5,645,208	1,820,590
1886	1,828,495	694,380,659	9,009,385	4 93	12.97	29,924,863	16 37	4,841,717	1,715,620

* Statistics of debts for 1899 are not yet complete.

EXEMPTIONS.—Municipalities were asked to report "the amount of exemptions from general taxes by by-law, but subject to school taxes." The returns show that 21 townships report such exemptions, aggregating $84,678; 31 villages, $288,714; 46 towns, $2,669,182, and 5 cities, $3,476,555, making $6,519,089 for 103 municipalities. This amount is included in the $816,765,473 given above.

Incidentally, 14 municipalities report $1,005,302 as exempted by by-law for all purposes. These will be fully enquired into for a later report, including such exemptions as "fixed assessments."

The following tables show the variations in population, assessment, taxation and debenture debt according to the various classes of municipalities, since the Bureau has been receiving returns direct from municipalities :

POPULATION.

Year.	Townships.	Towns.	Villages.	Cities.	Total.
1899	1,109,806	318,145	133,921	448,876	2,010,748
1898	1,110,894	314,820	134,747	440,889	2,001,350
1897	1,113,530	312,947	133,560	430,940	1,990,977
1896	1,112,900	306,001	132,451	420,934	1,972,286
1895	1,109,631	300,655	130,889	416,215	1,957,390
1894	1,103,828	297,194	126,387	408,810	1,936,219
1893	1,096.984	292.285	123,125	397,665	1,910,059
1892	1,102,467	291,706	121,690	393,664	1,909,527
1891	1,116,347	287,854	122,691	395,229	1,922,121
1890	1,118.252	410,530		388,762	1,917,544
1889	1,130.060	400,890		375,951	1,906,901
1888	1,133,046	393,461		353,638	1,880,145
1887	1,140,138	377,389		330,930	1,848,457
1886	1,148,856	360,005		319,634	1,828,495

In 1899 there were 499 township municipalities, 100 towns, 137 villages, 13 cities and 38 counties.

Total Assessed Value.

Year.	Townships.	Towns	Villages.	Cities.	Totals.
	$	$	$	$	$
1899	450,952,948	95,008,798	30,973,357	239,825,370	816,760,473
1898	448,810,060	93,529,372	30,768,025	236,077,376	809.184,833
1897	444,722,478	91,438,546	30,497,707	236,966,646	803,625,377
1896	447,117,383	91,269,208	30,005,839	246,525,203	814,917,633
1895	448,417,259	93,646,835	29,711,010	249,691,062	821,466,166
1894	451,476,103	93,065,465	29,007,928	252,629,874	826.179,370
1893	451,629,103	94.213,304	28,463,366	251,224,279	825,530,052
1892	452,065,658	93,867,423	28,043,948	251,234.098	825.211,127
1891	454,070,364	92,555,035	27,820,773	244,401,222	818,847,394
1890	452,467.088	115,402,233		230,746,950	798,616.271
1889	450,977,220	106,453,798		204,474,798	761,905,816
1888	460,615.822	100,413.029		187,625,719	748,654,570
1887	456,170,163	93,337,596		167,804,179	717,311,938
1886	452,097,645	88,078,093		154,204,921	694,380,659

Taxes Imposed for all Purposes.

Year.	Townships.	Towns.	Villages.	Cities.	Total.
	$	$	$	$	$
1899	4,621,803	2,106,178	585,356	5,221,947	12,535,284
1898	4,461,474	2,095,791	570,912	5,094,789	12,222,966
1897	4,407,005	2,069,444	569,884	5,160,592	12,206,925
1896	4,292,741	2,005,132	557,003	5,267,909	12,122,785
1895	4,473,269	2,021,455	544,111	5,277,594	12,316,429
1894	4,579,044	1,955,980	526,813	5,258,475	12,320,312
1893	4,629,028	1,944,221	505,231	5,444,180	12,522,660
1892	4,599,442	1,876,420	499,575	4,828,133	11,803,570
1891	4,544,291	1,811,517	493,508	4,918,432	11,767,748
1890	4,473,108	2,161,644		4,262,733	10,897,485
1889	4,507,717	1,993,623		3,746,858	10,248,198
1888	4,494,780	1,884,918		3,540,264	9,919,962
1887	4,431,720	1,759,248		3,109,145	9,300,113
1886	4,388,401	1,670,848		2,950,136	9,009,385

Debenture Debt Outstanding.

Year.	Townships.	Towns.	Villages.	Cities.	Counties.	Total.
	$	$	$	$	$	$
1898	2,649,698	10,344,650	1,224,440	38,506,528	1,781,056	54,506,372
1897	2,917,091	9,850,615	1,160,285	37,846,377	1,803,107	53,577,475
1896	2,866,904	9,598,063	1,163 096	37,471,230	1,848,982	52,948,275
1895	2,992,613	9,090,368	1,175,803	36,452,914	2,184,263	51,895,991
1894	2,942,267	8,611,052	1,132,942	34,778,154	2,260,172	49,724,587
1893	3,039,823	8,222,289	1,082,476	33,399,063	2,339,592	48,083,243
1892	3,089,430	7,491,878	1,087,468	32,966,371	2,531,815	47,166,962
1891	3,118,639	6,775,715	993,945	30,253,043	2,747,511	43,888,853
1890	3,366,617	7,099,648		27,110,712	3,144,008	40,720,985
1889	3,299,557	6,371,763		26,096,152	3,220,860	38,988,332
1888	3,409,744	6,146,561		21,769,261	3,403,961	34,729,527
1887	3,154,428	5,261,078		20,080,923	3,446,891	31,943,320
1886	3,153,646	4,795,580		18,469,893	3,505,744	29,924,863

FINANCIAL STATEMENT—ONTARIO MUNICIPALITIES.

Summary statement showing for all Municipalities in Ontario (including counties, townships, cities, towns and villages), the total of the several items of receipts, disbursements, assets and liabilities for the ten years ending December 31st, 1889-98.

Schedule.		1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	1890.	1889.
RECEIPTS.		$	$	$	$	$	$	$	$	$	$
Balance from previous year	a	1,641,559	1,728,747	1,648,455	1,314,226	1,356,761	1,698,895	1,613,373	1,361 843	1,199,140	1,726,279
Ordinary municipal revenue:											
Municipal and school taxes	b	12,217,687	12,178,312	11,881,641	12 159,570	12,148,097	11,975,445	11,820,733	11,377,699	10,741,827	10,110,612
Licenses (liquor and other)	a	331,603	337,530	334,559	344,036	836,158	856,929	841,789	776,564	1,691,410	1,634,035
Fees, rents, tolls, fines, etc	a	501,409	483,134	514,408	480,160						
Water rates, electric light or gas rates, etc	c	1,289,755	1,242,235	1,187,751	1,151,102	1,118,410	995,429	894,858	955 299		
Surplus fees from registrar	d	10,957	13,292	16,951	13,626	13,351	16,365	19,636	20,270		
Rates from local municipalities	d	1,047,924	1,097,689	1,111,043	1,243,999	1,258,060	1,231,039	1,372,862	1,303,572	1,312,795	1,244,209
Subsidies and refunds:											
Received from Government on account of—											
*Schools	d	147,418	149,606	142,717	144 095	142,180	139,714	140,461	143,050	142,943	144,194
Administration of justice	d	146,726	180,877	169,304	161,820	141,868	122,261	120,658	144,545	139,312	120,926
Refund of loans, investments and special deposits	a	2,451,302	2,232,984	1,790,130	1,120,830	1,721,963	1,240,663	949,153	1,714,189	1,242,172	1,579,202
Interest and dividends	a	493,578	451,879	432,287	391,064						
Loans:											
Money borrowed for current expenses	a	5,205,349	4,892,579	4,516,049	4,592,405	5,483,286	5 711,383	6,108,802	7,161,248	7,414,270	5,348,896
Money borrowed on debentures (face value) for—											
School purposes	a	338,993	162,866	253,325	366,686	214,074	223,697	571,416	309,205	2,950,880	6,371,104
Other purposes	a	4,267,653	3,785,949	4,137,606	3,953,322	5,759,403	4 266,935	4,145,783	5,181,465		
Non-resident taxes collected	d	73,120	81,235	71,176	99,044	89,459	95,626	103,997	107,513	93,130	101,671
Towns or cities separated from counties	d	79,175	97,267	107,562	95,797	102,615	96,147	98,139	94,891	101,800	91,279
Miscellaneous	a	677,370	660,422	672,585	543,264	568,275	743,335	1,024,394	2,075,473	723,732	759,473
Totals		30,921,578	29,776,603	28,987,549	28,175,046	30,953,960	29,413,263	29,826,054	32,726,826	27,753,411	29,231,880
DISBURSEMENTS.											
Expenses of municipal government:											
Attendance at meetings of council and committees	d	38,934	43,443	72,772	62,740	67,512	67,100	63,959	67,920	64,132	59,617
Allowances, salaries and commissions	a	709,169	717,526	719,371	696,348	673,268	693,808	687,239	684,306	669,050	649,107
Lighting of streets water supply, fire protection	c	1,490,253	1,346,008	1,337,712	1,372,206	1,269,531	1,271,427	1,150,242	1,179,791	1,093,896	1,073,633
Law costs (including salaries)	a	149,569	156,287	143,877	176,121	614,722	632,230	548,639	536,220	526,167	474,800
Other expenses of municipal government	a	467,339	445,967	451,167	465,008						
Construction works:											
Roads, bridges, streets and parks	a	‡2,675,774	2,680,976	2,130,304	2,446,801	2,683,713	3,168,127	3,2 9,808	3,334,087	3,883,624	3,673,729
Water and electric light works	c	812,117	824,418	769,365	847,599	1,238,794	1,392,689	1,455,008	1,683,716	1,798,578	1,817,169
Buildings and other works	a	713,208	719,966	697,881	377,010						
Drainage works	e	311,311	275,869	238,919	227,692	297,286	275,941	237 215	275,551	234,799	192,161

* The Government grants to Counties only are shown here.

‡ Including $18,252 grants from counties to local municipalities for roads and bridges

FINANCIAL STATEMENT—ONTARIO MUNICIPALITIES—*Continued.*

Schedule		1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	1890.	1889.
DISBURSEMENTS—*Continued.*		$	$	$	$	$	$	$	$	$	$
Administration of justice, gaols, police, etc.	*f*	1,066,013	1,066,070	1,054,505	1,077,891	1,045,597	997,080	1,017,392	1,021,520	993,548	970,183
Support of the poor and other charities	*a*	365,071	363,608	333,423	321,965	323,288	298,040	308,137	311,567	288,527	294,345
County treasurer for levy	*a*	1,043,123	1,093,505	1,117,906	1,228,096	1,222,835	1,231,824	1,355,698	1,279,609	1,305,443	1,237,304
Payments on account of schools and education	*a*	4,434,194	4,258,034	4,257,033	4,296,862	4,239,625	4,269,723	4,228,004	4,141,417	4,213,856	4,231,033
Sinking Fund investments and deposits	*a*	2,473,950	2,501,517	1,969,668	1,699,407	1,846,747	1,813,254	1,452,747	1,231,320	1,596,603	1,354,755
Other investments and special deposits	*a*	436,681	393,364	545,255	290,121						
Loans repaid:											
Debentures redeemed (principal) School	*a*	216,858	183,014	215,934	187,526	4,424,647	3,574,353	1,437,070	2,408,097	1,213,673	2,115,879
Debentures redeemed (principal) All other	*a*	3,463,746	3,131,278	3,129,832	1,966,061						
Interest on loans, advances and debentures	*a*	2,633,762	2,553,988	2,588,759	2,578,220	2,552,607	2,508,691	2,482,156	2,498,294	2,210,692	2,057,938
Refund of money borrowed for current expenses	*a*	4,689,474	4,301,229	4,411,493	5,201,538	5,992,779	4,952,893	7,320,328	7,806,602	5,305,931	6,389,299
Non-resident taxes paid	*d*	66,343	83,313	75,288	112,915	94,583	95,820	112,247	98,056	95,589	103,177
Board of Health	*a*	100,750	102,430	92,312	97,534	952,200	813,502	1,011,270	2,555,377	867,460	1,338,611
Miscellaneous	*a*	714,200	893,234	906,026	796,930						
Totals		29,071,839	28,135,044	27,258,802	26,526,591	29,639,734	28,056,502	28,127,159	31,113,453	26,391,568	28,032,740
ASSETS.											
Cash in treasury	*a*	1,849,739	1,641,559	1,728,747	1,648,455	1,314,226	1,356,761	1,698,895	1,613,373	1,361,843	1,199,140
Taxes in arrears	*b*	4,614,387	4,652,431	4,617,196	4,597,668	4,411,047	4,232,438	3,740,979	3,772,078	3,352,104	3,168,072
Rates due from local municipalities	*d*	531,222	550,055	587,538	663,043	668,960	654,171	550,787	609,513	613,135	632,587
Sinking Fund investments and deposits	*a*	9,395,774	8,994,790	8,350,555	7,932,668	10,325,356	9,870,539	8,976,898	8,046,071	8,327,436	7,691,092
Other investments and special deposits	*a*	3,557,079	3,542,472	3,604,475	3,277,020						
Water works and electric light plant	*c*	16,085,883	14,137,268	13,720,675	13,464,113	32,694,526	31,042,202	29,316,472	27,728,476	28,582,941	26,076,903
†Other buildings and property	*a*	19,974,122	20,912,711	20,736,433	20,635,993						
Miscellaneous	*a*	5,918,589	5,745,594	5,901,072	4,882,280	5,296,549	6,305,119	6,767,117	6,120,479	5,834,758	3,406,578
Totals		61,926,795	60,176,880	59,246,691	57,101,240	54,710,664	53,461,230	51,051,148	47,889,990	48,072,217	42,174,372
LIABILITIES.											
County levy	*g*	478,835	491,415	529,512	631,502	617,942	606,103	522,111	568,817	535,866	581,449
School rates and grants unpaid	*a*	589,389	562,262	621,842	602,998	570,344	561,264	547,917	554,130	498,348	517,017
Debentures outstanding (principal) for—											
Aid to railways	*a*	3,944,744	4,523,719	4,616,120	4,539,187	4,805,897	5,079,604	5,334,129	5,510,114		
Schools	*a*	4,194,554	4,072,628	4,201,547	4,164,156	3,990,317	3,885,401	3,830,985	3,409,726	40,720,985	38,988,332
All other purposes	*a*	46,357,074	44,981,128	44,130,608	43,192,648	40,928,373	39,118,238	38,001,848	34,969,013		
Loans for current expenses and interest due on same	*a*	3,720,632	3,219,853	2,682,520	2,546,343	3,151,628	3,639,384	2,857,182	4,100,387	4,782,085	2,586,108
Local municipalities for non-resident taxes	*d*	25,889	19,112	21,540	30,070	18,518	19,717	20,510	28,840	19,269	23,461
Miscellaneous	*a*	2,068,990	2,190,311	2,405,980	2,023,216	2,311,135	1,969,954	2,522,179	2,377,556	2,551,618	2,785,484
Totals		61,390,107	60,060,428	59,209,669	57,730,120	56,394,154	54,879,665	53,636,861	51,518,583	49,108,171	45,481,851

† Exclusive of school property. All municipalities; (*b*) townships, cities, towns and villages; (*c*) cities, towns and villages; (*d*) counties; (*e*) townships; (*f*) counties, cities, towns and villages; (*g*) townships, towns and villages.

STATISTICS OF

ONTARIO MUNICIPALITIES.

1898-9.

TOWNSHIP MUNICIPALITIES.

POPULATION, AREA ASSESSMENT AND TAXATION—1899.
RECEIPTS, DISBURSEMENTS, ASSETS AND LIABILITIES—1898.

TABLE I. Showing for the *township* municipalities of Ontario, the population, area, assessed value and amount of taxes imposed for all purposes, inclusive of schools, as shown by the assessment and collection rolls for 1899; also a summary statement of the receipts, disbursements, assets and liabilities for the year ending December 31, 1898.

No.	Township Municipalities.	County in which located.	Population 1899.	No. of acres assessed 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$ c.		$	$	$	$	$	$	$	$
1	Adelaide	Middlesex	2,048	44,210	869,060	11,558	5 64	13.3	5,367	12,335	.....	175	1,500	.....	60	19,437
2	Adjala	Simcoe	1,947	45,992	849,815	8,887	4 56	10.5	547	7,108	.....	...	1,000	.....	563	9,218
3	Admaston	Renfrew	2,300	69,711	747,785	5,990	2 60	8.0	85	5,682	.....	.....	.....	.....	229	5,996
4	Adolphustown	Lennox and Addington	398	11,536	342,383	2,750	6 91	8.0	303	2,740	2,500	112	300	.....	1	5,956
5	Albemarle	Bruce	1,463	55,095	167,542	4,261	2 91	25.4	319	4,742	9,254	137	3,011	.....	544	18,007
6	Alberton	Rainy River	142	14,661	33,610	661	4 65	19.7	...	127	.....	.....	.....	.....	.....	127
7	Albion	Peel	2,740	55,850	1,146,310	10,802	3 94	9.4	175	9,473	.....	...	1,500	.....	139	11,287
8	Aldborough	Elgin	4,348	73,798	1,569,820	25,198	5 80	16.1	817	21,403	492	185	9,000	2,280	961	35,138
9	Alfred	Prescott	3,159	43,923	323,510	7,785	2 46	24.1	53	6,793	...	....	300	.....	160	7,306
10	Algona S	Renfrew	918	29,884	40,480	1,230	1 34	30.4	.....	1,079	.....	.....	.....	350	.....	1,429
11	Alice and Fraser	Renfrew	1,906	56,898	119,664	3,413	1 79	28.5	.....	3,128	.....	.....	100	150	86	3,464
12	Alnwick	Northumberland	1,140	16,936	328,950	3,190	2 79	9.7	134	3,250	.....	.....	300	.....	101	3,785
13	Amabel	Bruce	3,142	63,672	644,750	12,695	4 04	19.7	3,860	12,310	44,647	929	.....	21,800	5,909	89,455
14	Amaranth	Dufferin	2,575	63,441	1,069,700	14,157	5 50	13.2	210	11,714	.....	.....	1,300	1,000	94	14,318
15	Ameliasburg	Prince Edward	3,027	43,289	1,124,110	10,997	3 63	9.8	248	9,487	175	1,069	1,041	.....	78	12,098
16	Amherst Island	Lennox and Addington	865	14,652	348,900	3,430	3 97	9.8	63	3,111	.....	.....	843	.....	112	4,129
17	Ancaster	Wentworth	3,818	45,647	2,230,290	16,035	4 20	7.2	1,771	13,064	1,678	1,213	.....	.....	3,113	20,839
18	Anderdon	Essex	1,640	22,231	641,080	9,061	5 53	14.1	335	9,251	.....	.....	2,681	402	496	13,165
19	Anson and Hindon	Haliburton	284	13,271	35,005	928	3 27	26.5	140	784	.....	.....	.....	.....	157	1,081
20	Armour	Parry Sound	866	38,281	183,091	2,543	2 94	13.9	653	2,269	.....	.....	.....	.....	45	2,967
21	Arran	Bruce	2,458	54,084	1,451,780	9,695	3 94	6.7	.....	12,018	40,000	2,273	.....	.....	1,503	55,794
22	Artemesia	Grey	3,466	67,864	1,003,085	13,594	3 92	13.6	1,124	12,136	266	7	2,000	2,000	480	18,013
23	Arthur	Wellington	3,032	64,430	1,512,660	13,153	4 34	8.7	195	10,589	.....	.....	2,000	.....	405	13,189
24	Ashfield	Huron	3,277	63,937	1,684,000	14,188	4 33	8.4	1,426	11,275	.....	.....	1,500	.....	362	14,562
25	Asphodel	Peterborough	1,883	37,768	844,860	7,443	3 95	8.8	234	7,251	.....	69	500	.....	135	8,189
26	Assiginack	Manitoulin	1,103	38,879	138,751	2,285	2 07	16.4	231	2,336	.....	.....	.....	.....	151	2,718
27	Athol	Prince Edward	1,135	23,427	490,320	3,281	2 89	6.7	193	3,785	100	233	38	.....	8	4,357

TOWNSHIP MUNICIPALITIES.—*Continued*

POPULATION, AREA, ASSESSMENT AND TAXATION IN 1899.
RECEIPTS, DISBURSEMENTS, ASSETS AND LIABILITIES IN 1898.

TABLE I. Showing for the *township* municipalities of Ontario, the population, area, assessed values and amount of taxes imposed for all purposes, inclusive of schools, as shown by the assessment and collection rolls for 1899; also a summary statement of the receipts, disbursements, assets and liabilities for the year ending December 31, 1898.

No.	Disbursements, 1898.													Assets on December 31, 1898.					Liabilities on December 31, 1898.				
	Allowances, salaries and commission.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of schools and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
1	655	844	2,625	.....	3,561	3,704	364	.....	.....	1,500	213	268	13,734	5,703	.....	...	1,510	7,213	...	.....	....	.....	.....
2	611	59	818	41	2,489	3,130	....	.....	.....	1,000	43	27	8,218	1,000	2.007	.....	.....	3,007	1,910	.....	....	85	1,995
3	333	278	254	9	1,249	3,179	.....	.....	110	.....	29	89	5,530	466	2,407	.....	400	3,273	1,871	332	.....	157	2,360
4	183	100	244	83	1,105	1,124	.....	2,800	....	.....	.....	57	5,696	260	162	3,300	300	4,022	...	.....	300	..	300
5	495	69	497	179	496	2,209	.....	654	10,000	2,000	881	180	17,660	347	5,175	950	629	7,101	1,270	900	3,091	637	5,898
6	34	7	.....	.....	.....	50	.....	.....	.....	.....	.....	6	97	30	899	.....	56	985	100	.....	.....	65	165
7	665	166	1,413	210	2,282	4,717	....	.....	.....	1,500	39	38	11,030	257	..	.....	700	957	.....	.....	.....	.....	.....
8	1,037	1,131	4,211	99	3,972	6,815	4,436	570	2,162	6,500	2,371	1,086	34,390	748	19,088	5,535	5,087	30,458	1,943	37,876	16,371	1,226	60,416
9	475	186	941	20	1,220	3,929	203	.....	118	.....	59	136	7,287	19	4,586	.. ..	300	4,905	3,262	708	636	610	5,216
10	218	106	10	.....	....	984	....	..	.....	32	..	24	1,374	55	728	.. ..	...	783	698	350	.....	25	1,073
11	293	73	252	17	641	1,808	.....	160	.....	103	41	35	3,423	41	683	260	73	1,057	370	930	.....	57	1,357
12	362	123	737	13	571	1,435	.....	.....	.....	300	8	148	3,697	88	186	....	898	1,172	.....	....	.....	11	11
13	714	276	1,148	185	616	3,812	.....	34,019	40,789	..	3,736	776	86,071	3,384	3,228	2,612	460	9,684	879	29,276	..	.....	30,155
14	511	124	1,636	12	1,000	5,224	3	.....	3,149	1,300	959	322	14,240	78	6.254	.....	1,000	7,332	1,361	17,424	1,000	605	20,390
15	485	299	424	297	2,590	5,122	....	1,047	.....	662	795	250	11,971	127	1,405	32,263	4,806	38,601	.....	15,000	1,041	60	16,101
16	172	36	224	194	1,162	1,441	.....	.....	.....	800	25	75	4,129	.....	1,292		650	1,942	.....	.....	843	25	868
17	1,031	681	5,089	548	2,732	7,241	.....	1,915	.....	..	.....	678	19,915	924	3,233	47,238	5,574	56,969	.. ..	...	5,050	..	5,050
18	421	425	2,549	98	852	1,661	886	.....	585	3,650	486	717	12,330	835	10,376	.....	655	11,866	1,453	2,613	8,258	2,357	14,681
19	146	45	99	....	90	441	.....	.. ..	100	.....	30	4	955	126	641	.....	20	787	586	366	.....	128	1,080
20	255	79	341	8	....	1,713	.....	.. ..	.....	..	.....	205	2,601	366	2,618	.....	66	3,050	1,558		.....	1,028	2,586
21	683	310	1,795	203	1,864	4,300	....	115	40,000	224	3,403	264	53,161	2,633	1,335	3,115	808	7,891	.....	5,000	.....	2	5,002
22	826	304	2,483	341	1,943	8,386	.....	757	....	2,000	448	295	17,783	230	1,061	3,204	810	5,305	.....	7,900	.....	.....	7,900
23	889	139	1,726	117	3,203	4,478	141	.....	112	2,000	90	100	12,995	194	....	.....	1,044	1,238	601	525	.....	.....	1,126
24	857	463	2,742	22	3,003	5,403	47	.....	160	1,500	73	110	14,380	182	3,733	.....	150	4,065	2,747	1,958	....	314	5,019
25	435	114	1,948	76	1,446	2,850	.....	201	221	500	228	106	8,125	64	279	2,184	6,287	8,814	568	3,399	.....	1,421	5,388
26	211	87	326	8	.....	1,425	.....	....	.....	.....	.....	204	2,261	457	1,413	..	500	2,370	950	.....	... ..	97	1,047
27	156	90	8	244	1,106	2,057	.....	217	.. ..	38	.....	181	4,097	260	246	2,367	1,000	3,873	.....	.....	.....	.....	.....

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Township Municipalities.	County in which located.	Population, 1899.	No. of acres assessed, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$		$	$	$	$	$	$	$	$
28	Augusta	Grenville	3,731	74,077	1,337,880	12,344	3 31	9.2	4,007	11,328	937	635	.....	..	761	17,668
29	Bagot and Blithefield	Renfrew	1,357	57,586	96,932	3,375	2 49	34.8	24	3,956	.....	.....	.....	....	132	4,112
30	Balfour	Algoma	688	20,048	73,438	1,743	2 53	23.7	33	1,397	.....	....	1,435	.....	240	3,105
31	Bangor, Wicklow and McClure	Hastings	916	30,757	23,735	1,787	1 95	75.3	.....	1,696	.....	.....	145	....	318	2,159
32	Barrie	Frontenac	530	24,322	39,625	1,467	2 77	37.0	160	1,123	.....	.....	.....	.....	33	1,316
33	Barton	Wentworth	3,573	13,228	1,285,451	12,993	3 64	10.1	3,398	10,124	1,074	1,026	500	8,000	272	24,394
34	Bastard and Burgess S.	Leeds	2,727	56,716	746,665	10,983	4 03	14 7	3,212	11,287	.....	980	.....	.....	146	15,625
35	Bathurst	Lanark	2,330	61,264	845,040	6,982	3 00	8 3	399	6,946	.....	47	.....	.....	19	7,411
36	Bayham	Elgin	3,497	56,745	1,066 590	18,739	5 36	17.6	.....	20,662	.....	5	4,000	500	246	25,413
37	Beckwith	Lanark	1,681	16,828	505,945	5,989	3 56	11.8	1,156	5,985	....	340	.....	.....	146	7,627
38	Bedford	Frontenac	1,470	63,308	175,853	5,254	3 57	29.9	741	4,333	.....	.....	343	....	346	5,763
39	Belmont and Methuen	Peterborough	2,012	82,403	190,822	5,145	2 56	27.0	190	5,440	.....	.....	600	....	284	6,514
40	Bentinck	Grey	4,521	74,935	1,300,230	13,672	3 02	10 5	1,057	17,621	55,000	1,871	529	.....	334	76,412
41	Bertie	Welland	3,002	33,973	1,667,915	12,606	4 20	7.6	2,038	12,573	.....	.....	.....	.....	2,117	16,728
42	Beverly	Wentworth	4,019	69,997	2,005,232	14,739	3 67	7.4	224	14,066	1,000	625	.....	.....	146	16,061
43	Bexley	Victoria	852	28,337	126,124	3,324	3 90	26.4	171	3,833	....	44	304	.....	117	4,469
44	Biddulph	Middlesex	2,322	39,257	1,218,000	10,133	4 36	8 3	722	10,650	.....	.....	2,000	100	103	13,575
45	Billings	Manitoulin	421	22,876	66,000	1,039	2 47	15.7	255	1,145	.....	.....	.....	.....	19	1,419
46	Binbrook	Wentworth	1,391	26,433	972,375	6,634	4 77	6.8	1,451	6,003	.....	.....	.....	1,200	64	8,718
47	Blandford	Oxford	1,552	29,671	1,079,035	7,926	5 11	7.3	2,787	7,889	.....	66	.....	.....	233	10,975
48	Blanshard	Perth	2,620	45,918	2,097,950	14,022	5 35	6.7	4,920	12,660	.....	9	1,991	.....	548	20,128
49	Blenheim	Oxford	4,664	67,039	2,294,035	20,291	4 35	8.8	1,643	20,390	.....	22	2,500	146	936	25,637
50	Bonfield	Nipissing	1,478	34,434	77,696	3,334	2 26	42.9	.....	2,233	.....	.....	750	.....	139	3,122
51	Bosanquet	Lambton	2,435	70,982	1,523,153	12,943	5 32	8.5	874	13,762	.....	.....	2,200	.....	215	17,051
52	Brant	Bruce	3,905	69,566	1,988,760	14,809	3 79	7.4	1,167	15,145	14,506	804	.....	.....	601	32,223
53	Brantford	Brant	5,088	71,310	3,772,388	24,111	4 74	6.4	1,890	22,246	16,650	3,073	.....	.....	1,531	45,390
54	Brighton	Northumberland	2,619	48,445	1,181,415	8,701	3 32	7.4	1,348	8,780	.....	.....	460	....	71	10,659
55	Brock	Ontario	3,664	66,252	2,095,642	15,324	4 18	7.3	777	13,266	.....	.....	4,377	.....	1,152	19,572
56	Bromley	Renfrew	1,991	49,123	164,025	4,945	2 48	30.1	538	4,325	.....	.....	.....	.....	207	5,070
57	Brooke	Lambton	3,229	73,902	1,840,465	25,969	8 04	14 1	1,008	23,104	.....	28	2.589	9,339	2,235	38,303
58	Brougham	Renfrew	586	21,367	31,415	934	1 59	29.7	83	794	.. ..	.. ..	2	.....	63	942
59	Bruce	Bruce	3,038	66,911	1,283,045	13,668	4 50	9.9	1,146	9,438	9 5	58	.....	.....	421	11,978
60	Brudenell and Lynedoch	Renfrew	1,303	50,647	71,617	2,301	1 76	32.1	67	2,232	.. ..	.....	.....	.....	124	2,423
61	Brunel	Muskoka	718	42,043	71,980	1,911	2 66	26.5	147	2,068	.....	.....	.....	.....	39	2,254

No.	Disbursements, 1898.													Assets on December 31, 1898					Liabilities on December 31, 1898.				
	Allowances, salaries and commissions.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of school and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loan repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Fund and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
28	824	466	1,809	10	2,769	6,900	.....	992	.....	...	240	63	14,073	3,595	1,118	19,548	3,000	27,261	2,771	3,200	2,000	.....	7,971
29	330	139	552	80	394	1,442	.....	.....	.....	300	31	44	3,312	800	1,307	....	800	2,907	121	.. ..	824	.....	945
30	391	183	250	28	...	839	....	.....	...	1,182	37	140	3,050	55	2,408	....	466	2,929	830	.....	520	....	1,350
31	268	75	344	.....	170	1,018	....	.....	....	205	28	51	2,159	....	1,976	.....	200	2,176	1,436	.....	495	393	2,324
32	175	106	42	.....	.....	801	.....	.....	72	.....	13	82	1,291	25	857	.....	400	1,282	325	159	.....	63	547
33	1,150	559	2,478	98	1,169	12,160	....	1,271	1,000	.....	260	350	20,495	3,899	167	15,132	10,489	29,687	170	10,000	500	530	11 200
34	588	181	647	25	2,817	5,904	.....	2,362	.....	... ..	1,100	206	13,880	1,745	160	25,447	1,560	28,852	.....	23,000	.....	150	23,150
35	451	171	671	29	1,529	3,962	.....	.....	...	.....	.....	59	6,872	539	457	780	600	2,386	.....	.....	.....	.....	.....
36	1,005	1,267	4,152	271	2,328	7,113	116	.....	1,768	4,742	2,079	462	25,303	110	7,165	.....	6,200	13,475	3,008	36,963	.....	139	40,110
37	435	172	1,061	32	1,149	3,056	.....	.....	.....	.....	.....	42	5,947	1,680	20	8,300	600	10,600	.....	.....	.....	...	.....
38	281	103	941	56	1,432	2,792	.....	.....	62	.....	32	64	5,763	..	1,013	.....	611	1,624	47	479	348	99	973
39	444	166	838	54	991	3,058	.....	.....	108	400	131	268	6,448	66	3,238	..	1,719	5,023	906	1,719	619	204	3,448
40	680	472	2,325	198	.....	5,563	..	4,624	55,154	518	4,405	97	74,036	2,376	3,605	8,883	.....	14,864	2,275	12,299	529	.....	15,103
41	710	319	1,199	17	2,978	7,852	166	.....	793	300	381	146	14,861	1,867	2,419		11,725	16,011	.....	6,725	....	.....	6,725
42	910	507	1,447	750	2,837	7,458	....	1,027	.....	.. ..	1	223	15,160	901	2,704	13,618	3,200	20,423	.....	.....	.....	.....	.....
43	292	150	107	4	289	2,104	44	599	175	... ..	420	231	4,415	54	3,244	1,696	225	5,219	1,437	8,100	301	100	9,941
44	748	235	2,686	20	1,704	3,783	.....	.....	180	1,800	81	42	11,279	2,296	3,611	.....	800	6,707	2,229	1,810	2,077	87	6,203
45	166	326	241	25	.....	315	.....	.....	.....	.....	.....	59	1,132	287	1,000	.....	.....	1,287	449	.....	.....	.....	449
46	374	243	1,717	175	1,070	4.195	.....	160	...	.....	.....	85	8,019	699	576	160	400	1,835	.....	1,200	... ..	.....	1,200
47	439	117	2,567	22	1,937	2,418	289	.....	731	..	154	195	8,809	2,166	.....	.....	291	2,457	....	3,073	.....	.....	3,073
48	635	200	3,837	88	4,165	4,321	.....	.....	280	1,991	70	130	15,717	4,411	302	.....	1,186	5,899	4,061	602	....	150	4,813
49	1,234	1,300	2,984	402	5,012	8,521	795	....	847	2,500	638	334	24,567	1,070	58	....	1,300	2,428	.....	10, 395	.....	159	10,554
50	430	175	259	.....	.....	1,536	...	.....	...	493	31	48	2,972	150	3,433	... ..	15	3,598	2,004	...	650	107	2,761
51	922	305	3,099	44	2,226	4,589	968	..	950	2,200	205	325	15,833	1,218	68	....	4,231	5,517	.....	3,220	....	468	3,688
52	829	444	2,620	317	2,760	6,101	.....	9,761	7,000	.....	871	241	30,944	1,279	1,030	10,315	24	12,648	.....	5,000	.. ..	236	5,236
53	2,056	647	7,060	1,010	4,204	9,082	.....	16,650	722	.....	805	769	43,005	2,385	3,554	68, 742	4,860	79,541	3,815	7,286	.....	3,072	14,173
54	561	263	1,356	51	1,705	4,524	.....	.....	.....	460	8	142	9,070	1,589	22	.....	750	2,361	.....	.....	.....	.....	.....
55	1,033	637	3,235	764	2,736	6,632	...	.. ..	965	3,000	246	324	19,572	..	62	.. ..	2,652	2,714	22	1,514	1,377	120	3,033
56	372	103	474	34	1,194	1,954	.....	.....	110	....	11	130	4,382	688	1,833	..	1,325	3,846	594	110	.....	.....	704
57	825	747	4,750	53	2,440	5,698	7,606	.....	6,567	3,700	1,627	267	31,280	4,023	9,187	.....	703	13,913	....	34, 768	2,624	162	37,554
58	191	41	.....	21	60	449	.....	.....	100	.....	24	53	942	....	532		29	561	.. ..	300	2	.....	302
59	605	310	2,179	331	2,123	3,799	.....	1,206	.....	..	150	105	10,808	1,170	130	1,206	1,000	3,506	....	2,500	.. ..	351	2,854
60	245	55	176	50	291	1,529	.. ..	.....	.....	.....	.....	6	2,352	71	2,393	.....	650	3,114	2,210	.....	.....	.....	2,210
61	250	110	592	5	.....	916	.....	.....	100	.....	30	104	2,107	147	2,253	.....	600	3,000	776	400	.....	.....	1,176

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Township Municipalities.	County in which located.	Population, 1899.	No. of acres assessed, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$ c.		$	$	$	$	$	$	$	$
62	Burford	Brant	4,324	66,363	2,280,308	19,566	4 52	8.6	2,414	19,841	4,600	451	.....	.....	70	27,376
63	Burgess N	Lanark	872	32,743	188,332	2,258	2 59	12.0	343	2,189	.....	....	.....	.....	.....	2,532
64	Burleigh and Anstruther	Peterborough	642	31,248	63,400	2,245	3 50	35.4	124	2,553	.....	.....	3,041	.....	181	5,899
65	Burpee	Manitoulin	254	12,495	21,370	688	2 71	32 2	2	784	.....	4	100	.....	.....	890
66	Caistor	Lincoln	1,735	32,771	662,385	5,765	3 32	8 7	1,023	6,063	.....	.....	300	.....	15	7,401
67	Caldwell	Nipissing	776	30,857	94,675	1,540	1 98	16 3	7	1,036	.....	.....	.....	.....	196	1,239
68	Caledon	Peel	3,784	68,655	1,780,465	15,755	4 16	8.8	427	13,484	.....	2	500	.....	265	14,678
69	Caledonia	Prescott	1,751	45,442	278,879	6,642	3 79	23.8	.....	6,240	.....	.....	150	.....	220	6,610
70	Calvin	Nipissing	474	27,162	60,925	1,141	2 41	18.7	3	994	.....	.....	500	600	3	2,100
71	Cambridge	Russell	2,916	59,580	438,401	9,669	3 32	22.1	88	7,150	.....	.....	625	.....	397	8,260
72	Camden	Kent	2,488	40,647	1,019,140	15,491	6 23	15.2	600	15,729	.....	.....	718	9,732	736	27,515
73	Camden East	Lennox & Addington	5,236	86,184	1,441,670	19,074	3 64	13.2	131	25,374	835	1,414	.....	.....	289	28,043
74	Cameron	Nipissing	273	11,563	39,445	515	1 89	13.1	266	311	.....	.....	263	.....	.....	840
75	Canborough	Haldimand	925	21,447	353,026	3,530	3 82	10.0	293	3,157	.....	.....	200	.....	2	3,652
76	Caradoc	Middlesex	3,941	61,898	1,199,066	17,612	4 47	14 7	10,364	18,587	.....	.....	.....	2,060	806	31,817
77	Carden	Victoria	725	43,834	62,468	1,944	2 68	31 1	23	1,959	.....	.....	45	.....	44	2,071
78	Cardiff	Haliburton	631	24,814	33,094	1,884	2 99	56.9	8	1,310	.....	.....	600	.....	2	1,920
79	Cardwell	Muskoka	457	27,793	67,538	1,077	2 36	15.9	495	1,361	.....	.....	.....	.....	20	1,876
80	Carling	Parry Sound	268	26,960	42,107	868	3 24	20 6	11	546	.....	.....	100	.....	9	666
81	Carlow	Hastings	635	19,903	48,255	1,669	2 63	34.6	439	1,412	.....	.....	.....	185	216	2,282
82	Carnarvon	Manitoulin	653	23,790	69,722	1,629	2 49	23.4	285	1,195	.....	.....	.....	500	40	2,020
83	Carrick	Bruce	4,919	59,487	2,092,639	13,371	2 72	6.4	968	13,387	.....	126	200	.....	435	15,116
84	Cartwright	Durham	1,776	37,420	720,920	4,977	2 80	6.9	353	5,653	.....	.....	650	.....	153	6,809
85	Cavan	Durham	2,557	62,492	1,557,475	10,867	4 25	7.0	188	12,386	.....	163	132	.....	424	13,293
86	Cayuga N	Haldimand	1,513	32,840	731,242	5,629	3 72	7 7	912	5,762	.....	13	.....	.....	158	6,845
87	Cayuga S	Haldimand	860	13,262	396,450	2,657	3 32	6.7	239	2,299	.....	.....	.....	.....	7	2,545
88	Chaffey	Muskoka	1,107	41,606	131,510	2,720	2 46	20.7	.....	3,271	.....	.....	.....	1,175	35	4,481
89	Chandos	Peterborough	766	41,941	54,064	2,099	2 74	38 8	164	2,053	.....	.....	.....	.....	.....	2,217
90	Chapman	Parry Sound	687	36,489	129,439	1,257	1 83	9.7	97	1,479	.....	.....	.....	.....	100	1,676
91	Charlottenburg	Glengarry	4,673	79,664	1,170,090	16,597	3 55	14.2	.....	18,691	53	.....	74	.....	4.8	19,246
92	Charlotteville	Norfolk	3,388	62,519	912,398	12,726	3 76	13 5	85	11,809	163	.....	2,437	.....	38	14,542
93	Chatham	Kent	5,667	84,486	1,981,977	40,759	7 19	20 6	1,110	42,931	.....	.....	33,291	17,564	573	95,469
94	Chinguacousy	Peel	3,988	79,974	2,913,955	19,116	4 79	6.6	1,249	17,652	1,375	1,553	.....	.....	353	22,182
95	Christie	Parry Sound	357	19,733	65,480	1,374	3 85	21.0	186	1,107	.....	.....	.....	.....	86	1,379

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Disbursements, 1898.													Assets on December 31, 1898.					Liabilities on December 31, 1898.				
	Allowances, salaries and commissions.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of schools and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
62	1,036	638	9,401	674	3,369	7,895	.....	.....	841	.....	136	322	24,312	3,064	.....	4,000	500	7,564	.....	1,877	.....	.....	1,877
63	244	52	168	.....	429	1,429	.....	.....	.....	.....	.....	6	2,328	204	199	.....	.....	403	.....	.....	.....	65	65
64	382	144	93	36	.....	1,541	.....	.....	196	3,041	202	175	5,810	89	1,179	.....	1,702	2,970	748	2,130	800	135	3,813
65	135	20	36	.....	.....	209	.....	43	.....	250	193	.....	886	4	569	85	.....	658	374	2,000	.....	.....	2,374
66	337	169	735	.....	1,764	2,866	.....	.....	.....	360	7	98	6,210	1,191	1,390	.....	1,000	3 581	1,666	.....	.....	.....	1,666
67	119	55	45	30	.....	547	.....	.....	64	.....	42	7	909	330	1,449	.....	40	1,819	922	736	43	166	1,867
68	876	485	1,058	554	2,774	7,554	.....	.....	.....	500	7	197	14,005	673	1,003	.....	2,000	3,676	.....	.....	.....	113	113
69	382	699	525	.....	811	3,164	216	.....	210	354	102	29	6,493	117	2,933	.....	1,256	4,306	2,710	1,074	950	271	5,605
70	130	52	10	10	.....	1,329	.....	.....	.....	250	9	3	1,793	307	1,469	.....	14	1,790	1,003	600	257	66	1,926
71	710	141	1,062	24	725	3,284	491	.....	415	425	457	521	8,255	5	4,422	.....	1,439	5,866	2,932	4,789	2,419	520	10,660
72	750	385	7,372	319	3,734	5,584	3,916	...	2,872	.....	567	2,016	27,515	.....	7,960	.....	2,155	10,115	905	23,176	718	1,684	26,483
73	942	299	2,460	473	8,640	7,663	.....	2,719	90	.....	1,855	374	25,515	2,528	1,697	28,594	1,065	33,884	.....	30,720	.....	.....	30,720
74	147	49	17	12	.....	358	.....	.....	.....	221	5	17	826	14	655	.....	5	674	262	.....	160	26	448
75	242	75	466	.....	1,134	1,263	.....	.....	.....	200	7	144	3,531	121	.....	.....	.....	121	.....	.....	.....	.....	.....
76	947	1,007	3,715	64	3,928	7,299	1,359	.....	1,812	.....	467	589	21,187	10,630	1,047	.....	2,800	14,477	4,166	10,059	.....	.....	14,225
77	224	87	207	.....	299	1,023	..	.....	50	45	39	19	1,993	78	796	.....	.....	874	299	700	.....	22	1,021
78	186	22	89	5	275	1,009	.....	.....	.....	200	41	81	1,908	12	2,602	.....	.....	2,614	1,524	370	612	184	2,690
79	183	33	195	15	.....	726	.....	25	27	.....	26	69	1,299	577	1,000	250	.....	1,827	709	347	.....	207	1,263
80	185	67	30	.....	.....	300	.....	.....	.....	.....	1	16	599	67	196	.....	12	275	.....	.....	100	11	111
81	158	63	231	.....	146	1,295	.....	... ..	150	.....	42	46	2,131	151	1,220	.....	590	1,961	719	735	.....	374	1,828
82	144	58	55	29	.....	1,213	.....	.....	106	.....	19	12	1,636	384	2,252	.....	.....	2,636	952	730	.....	97	1,779
83	671	660	1,170	168	2,342	7,589	.....	374	.....	200	363	178	13,715	1,401	19	2,880	1,914	6,214	.....	7,200	.....	.....	7,200
84	399	77	765	157	1,182	2,747	.....	.....	143	650	78	144	6,342	467	81	.....	2,340	2,888	.....	1,621	.....	.....	1,021
85	834	228	1,768	138	2,394	5,496	.....	.....	.....	132	9	325	11,324	1,969	461	.....	6,027	8,457	30	.....	... ..	1,187	1,217
86	343	54	1,011	34	1,862	3,087	.....	.....	.....	.....	.....	95	6,486	359	115	.....	.....	474	.....	.....	.....	.....	.....
87	136	30	68	17	... ..	1,493	.....	.....	.. ..	.....	.....	6	1,750	795	498	.....	1,220	2,513	900	... ..	.....	.....	900
88	333	114	524	15	.....	2,261	.. ...	.....	74	536	85	329	4,271	210	3,304	.....	.....	3,514	300	1,681	549	... ..	2,530
89	150	59	83	58	112	1,280	.....	.....	.....	200	10	205	2,157	60	2,089	.....	.....	2,149	1,090	.....	.....	707	1,797
90	190	115	152	11	.....	600	.....	.....	.....	...	.....	54	1,122	554	812	.....	438	1,804	79	.....	.....	79	158
91	990	236	2,614	157	2,530	11,043	120	.....	663	7	520	366	19,246	.....	8,249	.....	.....	8,249	2,720	9,929	74	2,718	15,441
92	878	154	1,201	173	2,697	5,500	113	163	985	1,837	648	227	13,976	566	3,262	8,764	1,050	13,642	2,673	11,401	600	.. ..	14,627
93	3,186	3,570	3,924	728	6,303	7,535	15,106	...	14,250	34,169	5,028	1,638	95,437	32	30,082	...	18,851	48,965	5,157	60,065	33,291	629	99,142
94	1,098	538	4,297	231	5,606	8,265	. ....	1,375	230	.....	129	121	21,890	292	632	32,513	960	34,337	38	2,110	.....	9	2,157
95	207	90	230	. ....	.....	400	.....	.... .	.....	.....	.....	142	1,069	310	644	.....	660	1,614	260	.....	.....	200	400

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Township Municipalities.	County in which located.	Population, 1899.	No. of acres assessed, 1899.	Assessed value of real and personal property and incometaxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$ c.		$	$	$	$	$	$	$	$
96	Clarence	Russell	4,785	69,955	359,097	11,482	2 40	32.0	1,090	11,582	.....	.....	707	600	232	14,211
97	Clarendon and Miller	Frontenac	778	44,453	75,699	2,315	2 98	30.6	337	2,432	.....	.....	100	.....	17	2,886
98	Clarke	Durham	4,111	68,410	1,825,575	15,899	3 87	8.7	85	17,587	.....	....	1,600	.....	1,225	20,497
99	Clinton	Lincoln	1,857	24,588	1,042,713	10,039	5 41	9.6	520	9,838	.....	4	400	.....	35	10,797
100	Cockburn Island	Manitoulin	163	11,417	20,950	551	3 38	26.3	296	229	.....	.....	.....	.....	...	525
101	Colborne	Huron	1,710	33,986	1,074,415	7,259	4 25	6 8	104	6,774	.....	.....	1,250	.....	201	8,329
102	Colchester N	Essex	1,275	30,456	584,905	14,252	11 18	24 4	3,075	16,951	.....	.....	18,500	7,063	3,354	48,943
103	Colchester, S	Essex	2,727	34,489	1,003,000	19,158	7 03	19.1	2,363	19,004	.....	11	400	.....	105	21,883
104	Collingwood	Grey	3,636	68,000	1,366,840	17,055	4 69	12 5	85	15,478	4,837	152	6,723	.....	359	27,634
105	Cornwall	Stormont	5,101	64,157	1,047,157	14,024	2 75	13.4	551	14,880	.....	86	3,000	995	376	19,888
106	Cramahe	Northumberland	2,588	46,869	1,097,590	8,475	3 27	7.7	...	9,214	.....	.....	.....	.....	72	9,286
107	Crosby N	Leeds	1,668	43,132	369,660	6,532	3 92	17 7	336	6,551	.....	109	100	.....	201	7,297
108	Crosby S	Leeds	1,588	36,656	386,025	5,906	3 72	15.3	846	6,209	914	202	900	.....	75	9,146
109	Crowland	Welland	1,029	19 211	392,377	4,949	4 81	12.6	461	5,404	.....	....	400	.....	170	6,435
110	Culross	Bruce	2,856	56,532	1,698,900	9,186	3 22	5.4	345	9,630	.....	10	450	....	97	10,532
111	Cumberland	Russell	3,669	74,786	417,221	12,827	3 50	30.7	807	10,672	.....	.....	.....	1,600	213	13,292
112	Dalhousie and Sherbrooke N	Lanark	1,774	72,238	252,803	4,404	2 48	17.4	433	4,497	.....	.....	.....	.....	39	4,969
113	Dalton	Victoria	489	28,616	36,935	1,132	2 31	30.6	133	1,284	.....	.....	.....	.....	2	1,419
114	Darling	Lanark	739	44,781	64,859	1,486	2 01	22.9	15	1,654	.....	16	385	.....	.....	2,070
115	Darlington	Durham	4,248	68,340	2,413,130	17,092	4 02	7.1	1,794	15,429	.....	55	.....	.....	312	17,590
116	Dawn	Lambton	3,387	65,518	874,190	17,664	5 22	20.2	4,403	20,585	.....	35	.....	5,115	4,307	34,445
117	Delaware	Middlesex	1,519	23,300	589,575	6,983	4 60	11.8	....	11,027	.....	158	...	2,200	52	13,437
118	Denbigh, Abinger and Ashby	Lennox & Addington	1,094	46,494	58,303	1,810	1 65	31.0	372	1,436	.....	...	15	.....	134	1,957
119	Derby	Grey	1,969	40,172	777,770	7,219	3 67	9 3	324	6,735	.....	.....	1,750	.....	192	9,001
120	Dereham	Oxford	3,599	65,361	2,386,350	22,780	6 33	9.5	4,264	21,248	.....	.....	.....	.....	988	26,500
121	Dorchester N	Middlesex	3,529	51,578	1,696,177	15,838	4 49	9.3	5,441	16,251	.....	370	.....	.....	341	22,403
122	Dorchester S	Elgin	1,497	30,562	1,063,440	10,942	7 31	10 3.	62	10,058	.....	.....	1,521	.....	55	11,696
123	Donro	Peterborough	2,008	38,669	776,030	6,497	3 24	8.4	145	6,626	.....	...	640	..	12	7,423
124	Dover	Kent	4,145	67,838	1,721,374	27,402	6 61	15.9	275	28,269	.....	299	.....	11,552	622	41,017
125	Downie	Perth	2,794	48,570	2,064,350	13,424	4 80	6 4	2,159	11,884	.....	.....	2,400	.....	146	16,589
126	Draper	Muskoka	891	37,928	93,404	2,285	2 56	24.5	814	2,264	.....	.....	.....	....	321	3,399
127	Drummond	Lanark	1,853	57,787	733,992	7,171	3 87	9.8	87	7,136	.....	....	300	... .	98	7,621
128	Drury, Denison and Graham	Algoma	185	40,053	94,076	2,219	11 99	23.6	.....	2,128	.....	...	425	.....	114	2,667
129	Dumfries N	Waterloo	2,138	44,293	1,875,080	8.808	4 12	4.7	29	11,662	.....	.....	3,500	.....	114	15,305

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Disbursements, 1898.												Assets on December 31, 1898.					Liabilities on December 31, 1898.				
	Allowances, salaries and commissions.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of schools and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
96	625	347	1,582	84	1,596	6,938	534	.....	488	632	87	1,071	13,984	227	8,366	.....	1,175	9,708	6,373	2,085	618	394	9,470
97	135	80	132	5	799	1,415	.....	.....	.....	50	14	10	2,640	246	687	.....	.....	933	590	....	450	....	1,040
98	950	342	2,819	432	2,236	7,204	.....	...	294	1,600	137	4,362	20,376	121	3,955	.....	5,925	10,001	1,300	2,171	.....	1,925	5,396
99	492	134	1,613	10	3,267	4,037	42	.....	143	400	29	290	10,457	340	1,131	.....	100	1,571	44	306	.....	330	680
100	94	10	18	10	....	357	.....	.....	....	.....	.....	...	489	36	534	.....	43	613	..	.....	.....	.....	.....
101	442	230	1,844	31	880	3,442	.....	.....	.....	1,250	38	115	8,272	57	638	.....	80	725	600	.....	.....	110	710
102	856	585	2,888	151	1,005	3,799	7,929	.....	4,438	20,500	1,599	3,872	47,622	1,321	16,413	.....	1,942	19,676	2,636	28,318	3,000	1,583	35,537
103	996	333	2,256	183	1,686	4,946	481	.....	6,542	1,800	2,035	277	21,535	348	18,887	.....	2,777	22,012	6,694	27,583	3,000	623	37,900
104	1,097	983	3,576	337	2,239	6,321	.. ....	5,318	196	5,723	666	743	27,199	435	492	5,318	1,804	8,049	679	9,566	1,000	60	11,305
105	910	428	3,018	467	2,115	8,402	518	....	172	3,000	199	446	19,675	213	9,205	.....	3,000	12,418	4,282	1,977	3,007	1,562	10,828
106	645	252	1,000	104	1,434	4,631	.. ..	.....	.....	705	....	201	8,975	311	1,491	.....	4,715	6,517	.. ..	.....	.....	.....	.....
107	345	130	677	32	749	3,479	.....	481	.....	550	570	67	7,080	217	432	7,069	510	8,228	.....	11,000	2,850	226	14,076
108	446	620	558	30	842	3,593	.....	1,145	49	345	245	51	7,924	1,222	... ..	6,423	1,400	9,045	.....	4,783	900	.....	5,683
109	261	143	376	13	1,621	2,738	144	... ..	204	300	45	180	6,025	410	1,846	.. ..	1,229	3,485	1,896	432	100	.....	2,428
110	619	208	1,542	72	1,882	4,735	22	.....	.	450	7	100	9,637	895	107	.....	20	1,022	.....	.....	.....	164	164
111	924	206	2,564	9	1,679	7,095	.....	.....	200	.....	61	95	12,833	459	9,066	.....	400	9,925	5,393	2,250	.....	2,601	10,244
112	333	80	799	32	472	2,857	.....	.....	.....	.....	.....	66	4,639	330	392	.....	500	1,222	.. ..	....	.....	40	40
113	188	25	74	8	125	510	9	....	.....	.....	.....	45	984	435	333	.....	.....	768	365	.....	.....	76	441
114	149	16	65	26	142	1,606	.. ...	.....	.....	.....	34	32	2,070	.....	735	200	80	1,015	25	.....	800	147	972
115	766	275	3,211	374	3,498	8,083	.....	.....	.....	.....	... .	360	16,567	1,023	3,029	.....	450	4,502	... ..	.. ...	.....	100	100
116	717	432	1,721	293	1,510	4,534	8,519	.....	10,044	500	1,110	3,248	32,628	1,817	17,085	.....	14,330	33,232	7,558	16,965	... ..	2,323	26,846
117	465	421	1,718	75	1,893	2,731	1,716	807	552	895	190	102	11,565	1,872	4,374	807	1,640	8,693	2,000	3,040	.....	.....	5,040
118	284	60	156	14	309	1,125	.....	.....	.....	... ..	2	7	1,957	.....	1,063	.....	.....	1,063	160	.....	15	.....	175
119	557	222	1,742	41	1,261	2,564	.....	.....	160	1,750	62	114	8,473	528	102	.....	800	1,430	.....	460	.....	....	460
120	1,245	2,098	4,629	32	4,871	7,568	2,133	.. .	2,335	.....	951	565	26,427	73	14	5,000	1,560	6,647	.....	17,536	.....	1,079	18,615
121	827	253	3,369	266	3,961	5,952	205	.....	898	.....	135	315	16,181	6,222	3,826	6,400	.....	16,448	4,200	1,808	.. ....	.....	6,008
122	768	358	2,938	57	2,630	3,135	642	.....	.....	983	66	119	11,696	...	846	.. ....	1,313	2,159	.....	.....	1,121	55	1,176
123	475	160	1,105	46	.....	2,390	.....	.....	281	640	40	66	5,203	2,220	499	.....	537	3,256	1,970	137	.....	222	2,329
124	1,491	674	1,568	713	3,979	7,230	8,851	.....	8,388	1,353	2,450	296	36,993	4,024	9,050	.....	900	13,974	4,270	50,405	.....	75	54,750
125	733	129	2,788	164	3,530	4,319	159	.....	.....	2,400	48	389	14,659	1,930	326	.....	925	3,181	994	... ..	.....	143	1,137
126	241	39	325	5	.....	1,335	.....	.....	150	.....	24	818	2,937	462	2,277	.....	49	2,788	1,165	200	.....	.....	1,365
127	344	182	1,098	.....	1,584	3,286	291	.....	190	300	24	88	7,387	234	614	.....	.....	848	.....	190	.....	.....	190
128	470	174	604	10	.....	1,010	.....	45	.....	199	35	114	2,661	6	2,031	139	.....	2,176	.....	500	515	2	1,017
129	689	202	2,648	.....	2,805	4,616	.....	.....	.....	2,800	52	441	14,253	1,052	593	.....	.....	1,645	.....	.....	700	125	825

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Township Municipalities.	County in which located.	Population, 1899.	No. of acres assessed, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and School taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$ c.		$	$	$	$	$	$	$	$
130	Dumfries S.	Brant	2,654	46,669	2,323,442	13,084	4 93	5.6	882	12,829	.....	11	1,000	.....	155	14,877
131	Dummer	Peterborough	2,011	68,730	617,160	5,625	2 80	9.1	248	6,071	.....	42	.....	.....	18	6,379
132	Dungannon	Hastings	714	33,466	48,728	2,218	3 11	45.5	27	2,197	.....	....	.....	.....	238	2,462
133	Dunn	Haldimand	864	14,833	402,866	3,261	3 77	8.1	355	3,234	.....	.....	.....		82	3,671
134	Dunwich	Elgin	3,191	69,337	1,734,995	21,380	6 70	12.3	287	23,441	.....	1	4,872	2,007	433	31,041
135	Dysart, Guilford, Harburn, etc.	Haliburton	958	365,087	136,595	4,730	4 94	34.6	203	7,249	.....	.....	500	300	142	8,394
136	Easthope N	Perth	2,216	43,106	1,931,490	12,653	5 71	6 6	4,250	12,389	.....	9	.....	1,739	536	18,923
137	Easthope S	Perth	1,923	23,810	1,139,995	7,490	3 89	6 6	2,073	7,424	.....	17	.....	.....	478	9,992
138	Eastnor	Bruce	1,631	50,133	340,928	5,504	3 37	16.1	12	4,687	1,011	194	883	.....	511	7,298
139	Edwardsburg	Grenville	3,759	69,516	1,164,500	13,106	3 49	11.3	....	9,973	3,400	689	3,400	.....	116	17,578
140	Egremont	Grey	3,247	72,973	1,549,180	12,619	3 89	8 1	1,046	7,641	56,836	4,594	.....	.....	865	70,982
141	Ekfrid	Middlesex	2,713	53,437	2,013,345	16,684	6 15	8.3	.....	17,413	.....	.....	1,400	4,167	694	23,674
142	Elderslie	Bruce	2,277	54,418	1,286,035	9,308	4 09	7.2	286	10,934	43,475	1,838	1,300	.....	397	58,230
143	Eldon	Victoria	2,650	62,069	762,675	10,293	3 88	13.5	1,929	10,603	1,364	66	1,600	.....	228	15,790
144	Elizabethtown	Leeds	3,536	74,317	1,373,122	16,235	4 59	11.8	848	16,714	.....	185	.....	1,360	1,074	20,181
145	Ellice	Perth	3,128	54,469	1,624,745	19,725	6 31	12.1	15,826	17,846	.....	147	.....	.....	2,370	36,189
146	Elma	Perth	3,626	67,406	1,611,800	20,266	5 59	12 6	8,649	20,710	.....	216	.....	1,792	725	32,092
147	Elmsley N	Lanark	1,060	28,130	376,030	3,336	3 15	8.9	232	3,533	.....	.....	.....	.....	5	3,770
148	Elmsley S	Leeds	819	22,180	462,295	2,879	3 52	6.2	532	3,299	.....	1	.....	.....	281	4,113
149	Elzevir and Grimsthorpe	Hastings	1,306	65,990	101,085	3,365	2 58	33 3	85	3,100	.....	.....	681	.....	228	4,094
150	Emily	Victoria	2,052	59,478	953,728	9,932	4 84	10.4	693	9,878	.....	5	1,300	.....	5	11,881
151	Enniskillen	Lambton	4,816	81,595	1,479,310	30,437	6 32	20.6	7,333	31,301	.....	6	.....	8,300	992	47,932
152	Ennismore	Peterborough	655	17,422	360,633	2,840	4 34	7.9	9	3,901	.....	.....	.....	.....	3	3,913
153	Eramosa	Wellington	2,596	44,108	1,853,615	11,585	4 46	6.2	303	10,802	.....	4	.....	.....	503	11,612
154	Erin	Wellington	3,480	70,504	2,071,400	14,324	4 12	6 9	36	13,009	.....	.....	.....	.....	138	13,183
155	Ernestown	Lennox & Addington	3,350	61,405	1,466,070	14,914	4 45	10.2	118	12,881	700	1,185	147	300	200	15,531
156	Esquesing	Halton	3,737	66,573	2,277,026	14,590	3 90	6.4	960	11,917	600	2,428	1,299	.....	161	17,365
157	Essa	Simcoe	4,100	65,966	1,289,814	14,491	3 54	11 2	941	12,941	.....	.....	1,000	560	1,472	16,914
158	Etobicoke	York	3,488	28,840	2 115,547	20,569	5 90	9.7	10,767	20,914	2,122	660	206	302	271	35,242
159	Euphemia	Lambton	2,246	39,167	994,237	9,269	4 13	9.3	219	8,336	.....	.....	1,500	.....	112	10,167
160	Euphrasia	Grey	3,152	72,000	1,283,455	12,458	3 95	9.7	66	12,026	.....	.....	.....	.....	330	12,422
161	Faraday	Hastings	882	47,957	77,562	2,985	3 38	38.5	129	2,302	.....	.....	83	850	312	3,676
162	Fenelon	Victoria	2,460	51,683	764,050	7,816	3 18	10.2	53	8,605	.....	.....	850	.....	386	9,894
163	Ferris	Nipissing	750	35,805	63,201	1,919	2 56	30.4	325	2,053	.....	.....	.....	300	64	2,742

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Disbursements, 1898.													Assets on December 31, 1898.					Liabilities on December 31, 1898.				
	Allowances, salaries and commissions.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of schools and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
130	836	281	1,792	331	2,729	5,744	.....	.....	227	1,000	398	182	13,520	1,357	8	.....	700	2,065	.....	7,289	.....	.....	7,289
131	460	79	741	187	1,249	2,468	.....	.....	90	.....	31	283	5,588	791	584	.....	177	1,552	25	540	.....	150	715
132	196	34	230	11	124	1,349	.....	.....	51	332	73	51	2,451	11	2,071	.....	314	2,396	1,503	858	.....	250	2,611
133	224	47	149	125	1,073	1,500	...	....	....	.....	....	120	3,238	433	...	.....	1,000	1,433	.....	.....	.....	.....	.....
134	1,166	1,037	5,123	111	8,366	6,164	967	347	2,888	2,100	1,002	712	29,983	1,058	5,533	347	1,247	8,185	2,802	14,749	2,865	469	20,885
135	419	239	1,045	142	2,233	1,967	.....	.....	160	1,150	53	22	7,430	964	1,332	... ..	2,803	5,099	1,716	460	.....	100	2,276
136	652	323	2,453	255	3,382	3,916	385	.....	1,754	.....	331	1,555	15,006	3,917	312	2,421	712	7,362	....	7,972	.....	.....	7,972
137	599	183	1,607	89	2,028	2,950	109	... ..	593	... ..	129	183	8,470	1,522	.. ..	..	726	2,248	..	2,621	.....	.....	2,621
138	429	141	303	78	51	2,071	27	1,698	... ..	200	915	1,346	7,259	39	5,353	5,945	2,101	13,438	2,778	17,035	883	.. ..	20,696
139	602	278	1,046	114	2,540	6,840	143	3,400	.....	1,789	115	218	17,085	493	4,218	19,411	3,279	27,401	2,541	... ..	2,500	1,326	6,367
140	521	193	825	127	2,292	4,379	... ..	.....	54,000	... ..	7,344	17	69,698	1,284	.....	.....	.....	1,284	...	6,000	.....	.....	6,000
141	764	1,017	3,956	87	3,897	6 866	2,010	.....	2,877	1,421	445	133	23,473	201	8,001	.....	1,315	9,517	4,139	9,945	1,044	1,528	16,656
142	658	235	1,338	59	1,908	4,348	.....	9,661	35,000	1,300	3,646	69	58,222	8	118	9,661	1,918	11,705	....	10,000	.....	.....	10,000
143	693	176	1,551	328	1,848	3,814	..	2,912	99	1,600	757	108	13,883	1,904	.....	4,673	.....	6,577	1,848	14,042	.. ..	100	15,990
144	860	241	2,795	42	4,113	9,380	79	595	553	...	643	63	19,364	817	3,827	6,231	2,067	12,942	1,555	12,907	.....	...	14,462
145	834	801	4,274	297	3,040	3,985	5,681	.....	4,162	.....	1,657	240	24,971	11,218	1,576	.....	22,555	35,349	3,091	24,833	9,800	4,744	42,468
146	906	708	4,058	191	3,920	5,379	5,511	.....	1,887	.....	1,178	1,485	25,223	6,869	552	.....	1,947	9,368	196	28,931	.....	2,930	32 057
147	247	100	303	.....	647	1,610	100	.....	.....	200	23	30	3,260	510	94	..	400	1,004	56	....	200	.....	256
148	228	138	388	15	682	1,717	.....	72	.....	.....	.....	18	3,258	855	237	72	519	1,683	682	.....	.....	79	761
149	451	219	317	37	...	1.742	.....	.....	.....	1,283	33	9	4,094	..	1,845	.....	1,000	2,845	885	200	681	42	1,808
150	691	166	1,602	242	2,960	4,335	.....	....	.....	1,300	30	71	11,397	484	.....	.....		484	...	.....	.....	.....	.....
151	2,204	1,207	2,831	180	4,850	9,246	7,395	.....	7,213	.....	2,138	2,545	39.809	8,123	29,916	.....	32,675	70,714	3,508	40,441	.....	4,805	48,754
152	249	77	112	23	1,626	1,768	.....	.....	.....	.....	.....	30	3,885	28	2,565	.....	475	3,068	2,089	.....	.. ..	476	2,565
153	650	281	1,694	50	3,483	4,509	42	.....	.....	.....	6	370	11,085	527	5,527	... ..	29	6,083	5,013	.....	.....	100	5,113
154	663	167	1,669	31	4,227	6,093	.....	.....	.....	.....	...	65	12,915	268	5,448	.....	...	5,716	3,833	.. ..	.....	... ..	3,833
155	615	248	1,360	149	4,968	6,563	.....	350	347	147	170	503	15,420	111	5,612	23,100	973	29.796	3,956	1,042	2,029	904	7,931
156	865	306	1,600	537	2,850	6,981	.....	1,293	.....	1,299	24	322	16,077	1,288	256	39,681	...	41,225	.....	.....	.....	.....	.....
157	892	150	1,931	218	4,402	5.713	.....	.....	625	1,250	132	152	15,495	1,419	633	.. ..	500	2.552	.....	1,205	.....	95	1,300
158	1,424	736	6,018	142	3,326	6,477	.....	2,605	3,355	..	1,817	1,121	27.020	8,222	7,443	14,970	1,199	31,834	968	32,976	2,043	.....	35,987
159	580	231	1,629	79	.....	3,744	318	.....	1,767	1,200	307	177	10,023	144	4,023	..	1,256	5,423	1,191	3,469	1,023	1,850	7,533
160	817	226	1,547	170	3,100	6,038	.....	.....	192	....	57	105	12,252	170	3,367	... ..	.	3.537	991	921	.....	170	2,085
161	410	64	375	50	127	2,166	.....	14	164	83	67	31	3,551	125	945	38	1,655	2,763	1,666	1,675	...	...	3,341
162	660	237	888	137	2,092	4,027	.....	.....	89	600	43	388	9,161	733	4,811	.....	125	5,669	4,139	411	250	300	5,100
163	301	72	70	10	.....	1,237	.....	.....	175	.....	34	50	1,949	793	2,459	.....	.....	3,252	999	578	549	166	2,292

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Township Municipalities.	County in which located.	Population, 1899.	No. of acres assessed, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and School taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$ c.		$	$	$	$	$	$	$	$
164	Finch	Stormont	3,073	50,697	668,450	12,196	3 97	18.5	1,341	12,963	...	127	6,000	4,262	8,769	33,462
165	Fitzroy	Carleton	2,618	62,380	753,453	9,624	3 68	12.8	260	9,300	...	...	...	...	72	9,632
166	Flamboro E	Wentworth	2,443	33,847	1,623 074	10,453	4 27	6.4	1,513	9,180	...	33	...	...	308	11,034
167	Flamboro W	Wentworth	2,833	31.081	1,276,025	11,487	4 05	9 0	686	11 661	1,000	658	1,000	...	349	15,357
168	Flos	Simcoe	3.314	63.228	666,190	16.388	4 95	24 6	1.856	11,974	...	24	3,281	5,000	756	22,911
169	Foley	Parry Sound	482	31,839	68,794	926	1 92	13 5	196	820	...	...	200	...	516	1,938
170	Fredericksburg N	Lennox & Addington	1,470	43,380	722,270	6.925	4 71	9 6	498	7,189	...	324	...	...	17	7,998
171	Fredericksburg S	Lennox & Addington	1,096	20,066	565,170	5,648	5 15	10.0	221	5,898	...	53	1,580	...	9	7,741
172	Fullarton	Perth	2,246	40.289	1,898,425	14,508	6 46	7.6	1,512	12,647	...	...	2,500	...	506	17,165
173	Gainsborough	Lincoln	2,350	39,832	1,101.378	8,381	3 57	7.6	65	8,392	...	...	800	...	49	9,306
174	Galway and Cavendish	Peterborough	1,102	50,667	54,251	1,403	1 27	25 9	63	1,462	...	...	...	...	224	1,749
175	Garafraxa E	Dufferin	1,852	40,911	1,115,725	8,613	4 65	7 7	489	8,921	...	...	1,500	...	49	10,959
176	Garafraxa W	Wellington	2,645	47,594	1,611,800	14,175	5 36	8.8	233	9,802	...	2	4,025	...	295	14,417
177	Georgina	York	1,689	35,100	647,400	5,558	3 29	8.6	488	5,641	...	...	...	...	33	6,442
178	Glamorgan	Haliburton	467	19,175	22.367	1,535	3 29	68.6	28	916	...	...	75	400	141	1,560
179	Glanford	Wentworth	1,581	23,610	1,063,685	6,102	3 86	5 7	75	4,738	1,000	283	...	...	32	6,128
180	Glenelg	Grey	2 697	67,276	660,637	9,549	3 54	14 5	1,903	8,763	18,417	571	400	...	534	30,388
181	Gloucester	Carleton	6,378	85,780	1,411,327	21,051	3 30	14 9	...	10,184	...	29	561	...	555	21,329
182	Goderich	Huron	2,464	53,369	1,493,800	9,537	3 87	6.4	4,063	9,519	...	...	1,450	...	14	15,046
183	Gordon	Manitoulin	650	25,722	114,807	1,441	2 22	12.6	...	2,033	...	...	...	...	7	2,040
184	Gosfield N	Essex	1,970	28,023	726,088	10,754	5 46	14 8	453	9,455	...	30	651	6,505	546	17,640
185	Gosfield S	Essex	2,393	40,038	1,040,985	15,085	6 30	14.5	825	11.264	...	109	3,525	5,786	426	21,935
186	Goulbourn	Carleton	2,554	65,125	838,500	9,167	3 59	10 9	1,361	9,201	...	524	450	...	63	11,599
187	Gower N	Carleton	2,209	33,114	883,340	8,164	3 70	9 2	771	7.271	...	...	...	...	102	8,144
188	Gower S	Grenville	806	21,742	315,505	2,793	3 47	8.9	580	3,250	...	...	...	...	13	3,823
189	Grantham	Lincoln	1,840	19,148	821,350	8,660	4 71	10 5	671	9 090	...	11	...	...	68	9,840
190	Grattan	Renfrew	1,897	59,684	207,020	3,236	1 18	15 6	319	2,653	...	...	...	...	25	2,997
191	Greenock	Bruce	2 680	64,981	1,387,905	9,475	3 54	6 8	610	13,106	31	35	...	...	230	14,012
192	Grey	Huron	3,243	64,887	1,723,825	13,762	4 24	8.0	799	12,056	...	...	2,200	13,672	221	28,948
193	Griffith and Matawatchan	Renfrew	725	23,457	21,590	1,130	1 56	52.3	21	1,079	...	...	...	...	16	1,116
194	Grimsby N	Lincoln	1.210	15,712	827,255	7,004	5 79	8 5	457	7,679	...	...	900	1,000	245	9,681
195	Grimsby S	Lincoln	1,360	18,136	780,475	6,249	4 59	10.8	636	6,184	...	...	...	...	142	6,962
196	Guelph	Wellington	2,320	36,686	1,497,850	10,516	4 53	7.0	55	9,339	1,226	815	...	...	536	11,971
197	Gwillimbury E	York	3,200	58,369	1,272,285	11,627	3 63	9.1	1,469	11,146	4,757	710	...	...	157	18,179

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Disbursements, 1898.													Assets on December 31, 1898.					Liabilities on December 31, 1898.				
	Allowances, salaries and commissions.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of schools and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
164	461	240	1,103	43	460	5,235	13,199	.....	1,093	9,200	1,146	483	32,663	799	1,035	.....	1,565	3,399	1,001	18,543	.....	1,420	20,964
165	686	58	2,059	5	1,424	4,243	.....	.....	.....	400	3	287	9,165	467	7,396	.....	800	8,663	6,171	.....	.....	.....	6,171
166	412	804	636	386	1,627	5,236	.....	.....	.....	.....	.....	201	9,102	1,932	2,837	.....	1,700	6,469	2,406	.....	.....	259	2,665
167	806	986	1,429	497	1,572	4,754	119	1,059	1,507	.....	223	197	13,129	2,228	1,892	15,295	6,100	25,515	.....	1,487	3,438	300	5,225
168	918	384	3,146	175	1,924	4,949	7,534	21	1,586	.....	1,659	315	22,314	597	9,166	863	3,275	13,900	4,986	29,147	3,281	.....	37,414
169	229	94	227	82	.....	561	.....	.....	.....	200	2	17	1,412	530	332	.....	150	1,002	405	.....	.....	27	432
170	331	109	2,156	58	531	2,438	.....	.....	350	.....	65	77	6,115	1,883	1,817	3,500	400	7,600	2,045	700	1,234	303	4,282
171	265	133	947	109	2,061	2,082	.....	33	.....	1,630	2	58	7,320	421	2,548	2,409	800	6,178	2,061	.....	978	.....	3,039
172	580	211	4,618	10	3,145	3,938	81	.....	.....	2,500	66	78	15,227	1,938	47	.....	800	2,785	.....	.....	.....	.....	.....
173	369	116	969	.....	2,018	3,865	.....	.....	222	800	27	330	8,656	650	319	.....	80	1,049	400	.....	.....	35	435
174	170	88	6	.....	226	1,214	.....	.....	.....	.....	.....	17	1,721	28	1,755	.....	.....	1,783	1,131	.....	.....	52	1,183
175	492	159	1,901	.....	1,653	3,761	34	.....	471	1,500	150	18	10,139	820	.....	.....	119	939	.....	1,747	.....	.....	1,747
176	695	241	2,829	.....	3,272	2,716	225	.....	.....	4,025	71	48	14,125	292	6,192	.....	750	7,234	5,491	113	.....	358	5,962
177	403	104	937	5	1,324	2,538	.....	.....	690	.....	125	96	6,222	20	49	.....	337	606	.....	1,666	.....	36	1,702
178	159	66	53	15	215	936	.....	.....	37	.....	17	25	1,523	37	2,471	.....	357	2,865	882	667	.....	189	1,738
179	430	284	660	128	1,217	2,713	.....	313	.....	.....	.....	164	5,909	219	637	7,613	648	9,117	.....	.....	.....	194	194
180	581	144	1,242	205	.....	3,694	.....	.....	20,183	400	2,432	91	28,972	1,416	638	185	1,000	3,239	1,534	185	.....	43	1,762
181	1,371	618	1,869	82	2,812	11,931	714	84	425	680	445	298	21,329	.....	20,826	969	3,750	25,545	14,121	5,450	2,330	370	22,271
182	586	193	3,054	....	3,006	3,677	.....	.....	.....	1,450	34	38	12,038	3,008	252	.....	.....	3,260	2,205	.....	.....	.....	2,205
183	195	59	164	.....	.....	905	.....	.....	.....	16	.....	100	1,499	541	1,693	.....	.....	2,234	1,090	.....	.....	.....	1,090
184	529	724	1,210	103	920	2,361	3,497	.....	1,976	456	412	662	12,850	4,790	6,947	.....	3,604	15,341	1,192	13,221	520	5,444	20,377
185	767	1,627	1,271	250	1,512	4,455	4,813	.....	2,130	2,898	1,150	517	21,390	545	11,629	.....	399	12,573	1,645	27,855	3,626	4,373	37,499
186	608	113	1,187	60	1,805	4,651	.....	.....	.....	450	12	532	9,418	2,181	1,606	7,691	454	11,932	2,336	.....	530	455	3,321
187	503	232	798	36	1,125	4,106	7	204	169	200	68	166	7,614	530	3,130	204	2,500	6,364	1,442	1,386	.....	55	2,883
188	254	63	108	7	723	1,264	10	.....	.....	300	18	264	3,011	812	126	.....	.....	938	723	.....	.....	.....	723
189	570	175	1,060	110	4,257	3,249	.....	.....	.....	.....	.....	147	9,568	272	2,319	.....	...	2,591	1,973	.....	.....	60	2,033
190	304	118	142	20	558	1,280	.....	.....	.....	.....	.....	130	2,552	445	792	.....	423	1,660	863	.....	.....	222	1,085
191	701	203	2,484	259	3,937	4,472	11	226	215	.....	110	154	12,772	1,240	.....	226	.....	1,466	.....	1,576	.....	.....	1,576
192	803	211	2,661	173	1,300	4,763	700	13,672	1,459	2,200	484	277	28,703	245	687	13,672	8,384	22,988	2,214	19,833	2,577	80	24,704
193	191	27	56	5	115	662	.....	.....	.....	.....	.....	20	1,076	40	765	.....	.....	805	150	.....	.....	38	188
194	389	169	1,784	15	2,396	3,165	.....	.....	.....	900	26	61	9,205	476	500	.....	800	1,776	.....	1,000	.....	.....	1,000
195	389	111	347	12	1,296	3,418	.....	.....	406	.....	249	112	6,340	622	328	.....	5	955	.....	4,581	.....	30	4,611
196	745	184	1,671	104	3,376	3,952	.....	1,312	.....	335	4	187	11,900	71	6,620	14,631	.....	21,322	3,241	.....	1,000	200	4,441
197	643	256	1,575	30	2,856	5,637	.....	4,757	.....	93	.....	591	16,441	1,738	.....	12,974	300	15,012	.....	.....	1,851	.....	1,851

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Township Municipalities.	County in which located.	Population, 1899.	No. of acres assessed, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and School taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$		$	$	$	$	$	$	$	$
198	Gwillimbury N	York	1,343	31,468	751,700	5,491	4 09	7.3	264	5,409	.....	.....	125	.....	80	5,878
199	Gwillimbury W	Simcoe	2,468	46,904	1,042,225	11,770	4 77	11.3	1,164	8,253	.....	.....	.....	.....	1,559	10 976
200	Hagarty, Jones, etc	Renfrew	2,680	*76,044	*70,070	*2,800	1 04	40.0	14	2,018	.....	.....	905	.....	615	3,552
201	Hagerman	Parry Sound	538	18,000	46,944	1,125	2 09	24.0	261	1,190	.....	.....	.....	.....	25	1,476
202	Haldimand	Northumberland	4,030	76,644	1,73[illegible]415	14,680	3 64	8.5	147	15,892	.....	.....	500	.....	73	16,612
203	Hallam	Algoma	275	14,828	90,166	1,675	6 09	18 6	100	1,268	.....	.....	.....	.....	200	1,568
204	Hallowell	Prince Edward	2,875	43,198	1,114 9 5	10,103	3 51	9 1	1,663	11,239	.....	.....	1,000	.....	16	13,918
205	Hamilton	Northumberland	4,063	61,990	1,941,990	13,364	3 29	6.9	350	14,498	.....	28	4,250	.....	241	19,.67
206	Harwich	Kent	4,505	88,275	3,701,771	30,084	6 68	8 1	3,087	32,542	.....	241	.....	4,703	623	41,176
207	Harvey	Peterborough	999	68,250	166,737	3,362	3 37	20.2	193	3,580	.....	.....	.....	750	11	4,534
208	Hawkesbury E	Prescott	4,837	56,414	449,575	10,639	2 20	23.7	925	9,121	.....	.....	.....	.....	249	10,295
209	Hawkesbury W	Prescott	1,179	24,526	228,757	4,342	3 68	19.0	945	5,822	.....	.....	705	.....	919	8,391
210	Hay	Huron	3,440	52,501	1,774,410	12,738	3 70	7 2	673	11,439	.....	.....	2,200	700	159	15,171
211	Head, Clara and Maria	Renfrew	482	15,314	37,875	1,205	2 50	31.8	62	1,074	.....	11	.....	.....	20	1,167
212	Hibbert	Perth	2,158	41,428	1,600,575	10,522	4 88	6.6	1,945	9,259	.....	.....	.....	.....	495	11,699
213	Hillier	Prince Edward	1,585	32,262	737,460	7,579	4 78	10.3	1,641	6,191	.....	13	500	.....	171	8,516
214	Hilton	Algoma	385	28,184	43,475	1,026	2 66	23.6	434	1,029	.....	1	.....	.....	33	1,497
215	Himsworth N	Parry Sound	586	15,212	63 391	1,972	3 37	31.1	360	1,727	.....	.....	.....	.....	144	2,231
216	Himsworth S	Parry Sound	1,583	47,292	207,680	3,327	2 10	16.0	110	3,171	.....	.....	.....	.....	243	3,524
217	Hinchinbrooke	Frontenac	1,366	63.455	183,560	4,856	3 56	26 5	119	4,661	.....	.....	.....	.....	94	4.874
218	Holland	Grey	3,203	68,192	783,513	7,982	2 49	10.2	460	7,799	.....	.....	.....	.....	322	8,581
219	Hope	Durham	3,352	63,881	2,295,917	10,719	3 20	4.7	.....	10,497	.....	1,555	1,582	.....	93	13,727
220	Horton	Renfrew	1,324	37,823	496,792	4,010	3 03	8.1	457	3,730	.....	.....	.....	.....	.....	4,187
221	Houghton	Norfolk	2,054	33,238	461,505	6,142	2 98	13 3	.	6,434	.....	.....	666	.....	34	7,134
222	Howard	Kent	3,528	58,635	2,443,986	17,828	5 05	7.3	3,057	19,694	.....	28	.....	1,673	393	24,845
223	Howe Island	Frontenac	333	7,933	52.682	1,357	4 08	25.8	.....	1,649	.....	.....	.....	.....	.....	1,649
224	Howick	Huron	4,130	67,530	2,141,859	13,944	3 38	6.5	2,924	12,776	50	184	1,000	.....	108	17,042
225	Howland, Bidwell and Sheg	Manitoulin	1,031	47,012	131,575	2,045	1 98	15.5	555	2,247	.....	.....	.....	.....	26	2,828
226	Hullett	Huron	2,696	53,494	1,968,240	12,156	4 51	6.2	175	12,496	2,122	27	1,700	.....	202	16,722
227	Humberstone	Welland	2,827	31,039	873,575	8,374	2 96	9.6	239	8,262	.....	.....	500	735	272	10,008
228	Humphrey	Parry Sound	548	27,156	118,871	1,795	3 28	15.1	349	1,169	.....	.....	.....	200	72	1,790
229	Hungerford	Hastings	3,283	93,313	731,245	11,516	3 51	15.7	.....	12,547	.....	.....	1,234	.....	503	14,284

Taken from last return received, viz.: 1897.

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Disbursements, 1898.													Assets on December 31, 1898.					Liabilities on December 31, 1898.				
	Allowances, salaries, and commissions.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of schools and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
198	411	64	385	111	1,477	2,655	.....	.....	260	125	42	40	5,570	308	51	.....	....	359	.....	520	.....	.....	520
199	497	102	856	252	3,137	5,065	.....	..	.....	.....	.....	130	10,039	937	.. ....	.. ...	300	1,237	...	.....	.....	75	75
200	250	157	186	41	590	1,265	40	200	300	270	243	30	3,552	.....	2,750	2,700	85	5,535	2,624	4,300	1,707	572	9,203
201	231	72	119	.....	....	497	.....	.....	.....	.....	.....	33	952	524	935	.....	750	2,209	769	.....	.....	35	804
202	1,211	449	2,238	311	4,209	7,016	.....	.....	45	... ..	20	658	16,157	455	3,957	.....	3,156	7,568	1,639	331	507	123	2,600
203	194	76	263	29	....	546	.. ..	....	123	... ..	189	81	1,501	67	459	.....	250	776	.....	3,617	.....	150	3,797
204	303	314	588	399	5,909	5,094	.....	.....	.....	1,000	22	255	13,884	34	157	.....	....	191	.....	.....	.....	.....	.....
205	918	272	2,437	284	1,445	7,275	.	.....	... ..	4,250	24	575	17,480	1,887	7,382	450	2,424	12,143	2,915	... ..	4,000	119	7,034
206	1,866	1,215	4,290	543	5,725	9,328	1,740	.....	4,381	.....	961	2,483	32,535	8,641	4,096	. ...	18,735	31,472	....	16,044	.....	3,259	19,303
207	351	117	414	27	418	2,921	.....	.. ..	52	..	39	59	4,398	136	2 198	.....	1,072	3,406	1,139	1,072	.....	268	2,479
208	467	220	469	25	2,735	5,160	.....	.. ..	....	.....	.....	10	9,086	1,109	1,326	... .	.....	2,535	1,966	.....	.....	100	2,066
209	318	91	267	8	1,350	2,306	.....	.....	1,066	705	893	362	7,366	1,025	281	.....	8,134	9,440	...	16 591	.....	.....	16 594
210	622	326	2,934	63	.....	6,437	457	... ..	1,598	1,700	486	270	14,893	278	3,078	.....	1,500	4,856	1,989	9,270	500	377	12,136
211	313	37	... ..	.....	121	409	.....	80	.....	.....	36	.....	996	171	772	430	...	1,373	451	600	.....	... ..	1,051
212	700	283	1,673	75	3,388	3,196	129	....	450	... ..	45	206	10,145	1,554	.....	.....	750	2,301	.. ..	450	.....	.....	450
213	410	227	190	350	1,675	3,767	.....	85	.....	500	.....	53	7,257	1.259	973	85	2,000	4,317	1,843	... ..	.....	.....	1,843
214	247	99	92	.....	.....	490	.....	29	.....	.....	50	9	1,016	481	1,464	58	650	2,653	340	1,000	.....	16	1,356
215	232	49	121	5	.....	1,017	.....	.....	74	.....	85	2	1,585	646	1,100	.....	391	2,137	817	1,328	.....	68	2,213
216	278	76	342	63	. ..	1,977	.....	.....	249	.....	121	206	3,312	212	2,404	.....	10	2,626	1,125	1,770	....	90	2,985
217	368	90	870	30	1,056	2,288	....	.....	50	.....	6	60	4,818	56	160	.....	1,000	1,216	.....	50	.....	101	151
218	679	110	828	98	1,636	3,929	.....	.....	350	.....	115	128	7,873	708	1,036	...	100	1,844	.....	1,748	.....	.....	1,748
219	926	384	1,881	459	2,789	5,556	.....	.....	.....	1,562	5	165	13.727	.....	2,839	34,368	400	37,607	... ..	.....	1.079	....	1,079
220	342	166	269	19	923	1,888	.....	.....	110	.....	22	8	3,747	440	1,822	... ..	1,350	3,612	423	330	.....	5	758
221	495	222	846	55	1,188	3,057	75	.....	180	570	206	240	7,134	.....	1,184	.....	5,130	6,314	170	3,534	458	... ..	4,162
222	1,106	376	3,039	338	7,431	6,044	2,406	.....	2,556	.....	400	753	24,449	396	4,761	.....	7,238	12,395	12	5,728	.....	1,185	6,925
223	115	22	6	.....	257	710	.....	.....	...	1	.....	15	1,126	523	219	.....	.....	742	564	.....	.....	157	721
224	828	221	2,134	37	3,474	5,881	.....	894	...	1,000	839	129	15,437	1,605	3 028	4,860	2,130	11,623	2,547	14,700	660	100	18,007
225	285	48	117	9	.....	1,944	.....	.....	176	.....	38	158	2.775	53	1,112	.....	.....	1,165	....	... ..	... ..	25	2
226	782	179	3,541	5	2,361	4,418	199	2,222	574	1,700	426	141	16,548	174	... .	2,222	.....	2,396	.....	8,049	.....	.....	8,049
227	633	386	962	12	3,230	2,825	868	.....	.....	500	6	130	9,552	456	1,098	.....	3,000	4,554	600	735	.....	20	1,355
228	252	170	185	5	.. .	666	.....	.....	176	.....	82	57	1,593	197	1,586	. . .	629	2,412	958	743	.....	55	1,756
229	718	645	1,378	182	4,215	6,620	.....	.....	172	76	45	233	14,284	.....	8,559	.....	3,000	11,559	6,690	581	1,234	300	8,805

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Township Municipalities.	County in which located.	Population, 1899.	No. of acres assessed, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$		$	$	$	$	$	$	$	$
230	Huntingdon	Hastings	2,644	54,112	433,775	7,410	2 80	17.1	967	7,027					329	8,323
231	Huntley	Carleton	2,196	61,399	450,095	7,244	3 30	16.1	1,193	6,359					195	7,747
232	Huron	Bruce	3,175	57,923	1,497,680	12,440	3 92	8.3	902	12,190		46		300	314	13,752
233	Innisfil	Simcoe	3,853	68,814	1,371,829	16,892	4 38	12.3	1,326	15,626				1,253	108	18,313
234	Jocelyn	Algoma	435	25,253	52,753	1,249	2 87	23.7	338	1,224		5				1,567
235	Johnston, Tarbutt, etc.	Algoma	803	38,522	119,059	1,479	1 84	12.4	204	1,334	50	1			29	1,618
236	Joly	Parry Sound	252	15,737	30,553	739	2 93	24.2	59	747			100		30	936
237	Kaladar and Anglesea	Lennox and Add'tn.	1,156	50,582	68,213	2,523	2 18	37.0	1 8	2,300					103	2,521
238	Keewatin	Rainy River	932	2,560	266,450	4,600	4 94	17.3		4,464			26		493	4,983
239	Kennebec	Frontenac	1,252	39,810	93,254	2,782	2 22	29 8	309	3,308					35	3,652
240	Kenyon	Glengarry	3,917	77,625	763,905	10,456	2 67	13.7	773	9,033		1	2,722		232	12,761
241	Keppel	Grey	3,404	89,279	685,035	12,176	3 58	17.8		13,913	37,381	1,855	1,000	900	654	55,703
242	Kincardine	Bruce	2,934	59,000	1,573,975	8,415	2 87	5.3	9	9,853			350		37	10,249
243	King	York	5,214	87,085	2,803,525	20,587	3 95	7.3		19,990	12,908	2,662	714	780	665	37,719
244	Kingston	Frontenac	2,446	51,851	1,172,661	13,856	5 66	11.8	8,153	13,363		124			122	21,762
245	Kinloss	Bruce	2,451	46,613	1,168,540	8,592	3 51	7 4	1,699	6,568		17			249	8,533
246	Kitley	Leeds	1,932	49,360	1,050,790	7,285	3 77	6.9	1,421	6,964		19			161	8,565
247	Laird	Algoma	376	15,122	79,882	889	2 36	11.1	247	878	28				36	1,189
248	Lanark	Lanark	1,721	57,772	457,980	5,130	2 98	11.2	255	4,964					24	5,243
249	Lancaster	Glengarry	3,643	57,218	923,278	10,686	2 93	11.6	432	10,681					391	11,504
250	Lavant	Lanark	508	44,111	55,680	1,605	3 16	28 8	221	1,952					141	2,314
251	Laxton, Digby and Longford	Victoria	768	71,894	74,304	2,624	3 42	35.3	558	2,695	828	207			262	4,550
252	Leeds and Lansdowne Front	Leeds	2,675	57,685	1,013,090	12,860	4 80	12 7	157	14,275			2,100		295	16,827
253	Leeds and Lansdowne Rear	Leeds	2,280	44,613	571,730	8,044	3 53	14.1	772	8,231		70			138	9,211
254	Limerick	Hastings	426	44,207	54,118	1,239	2 91	22 9	114	1,230					341	1,685
255	Lindsay and St. Edmunds	Bruce	1,023	110,532	104,291	2,968	2 90	28.5	2	3,820			1,100		73	4,995
256	Lobo	Middlesex	2,730	47,284	1,753,710	15,318	5 61	8.7	7,018	15,483					158	22,659
257	Lochiel	Glengarry	4,483	71,223	1,103,170	11,397	2 54	10 3	1	10,312					706	11,019
258	Logan	Perth	2,941	53,774	1,891,265	13,340	4 54	7 1	487	13,336	1,231	27	1,500	1,842	2,587	21,000
259	London	Middlesex	8,714	99,868	4,149,660	37,824	4 34	9 1	19,314	37,236	25	297			952	57,824
260	Longueuil	Prescott	991	17,638	172,975	2,507	2 53	14.5		2,452					39	2,491
261	Loughborough	Frontenac	1,728	51,083	382,557	7,320	4 24	19 1	82	8,337		175			60	8,654
262	Louth	Lincoln	1,763	18,668	715,665	7,881	4 47	11.0	315	8,301		34			326	8,976
263	Luther E	Dufferin	1,541	38,629	556,465	8,472	5 50	15.2	898	7,776			1,800		48	10,522

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Disbursements, 1898.													Assets on December 31, 1898.					Liabilities on December 31, 1898				
	Allowances, salaries and commissions.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of schools and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
230	542	129	336	66	3,337	3,468	.....	.....	200	.....	61	22	8,161	162	3,945	.....	1,000	5,107	2,950	500	.....	90	3,540
231	698	147	615	37	1,417	2,953	.....	.....	75	.....	34	54	6,030	1,717	1,338	.....	1,400	4,455	1,757	490	.....	75	2,322
232	779	192	2,583	194	2,242	5,491	5	.....	1,084	.....	126	413	13,019	733	2,581	.....	800	4,114	.....	1,553	.....	.....	1,553
233	951	489	2,577	303	5,837	6,013	67	.....	228	.....	44	120	16,629	1,684	1,941	.....	.....	3,625	867	1,753	.....	.....	2,620
234	202	110	242	.....	.....	750	.....	33	.....	.....	42	1	1,380	187	190	186	825	1,388	28	600	.....	15	643
235	220	72	415	.....	.....	552	.....	50	100	.....	39	62	1,510	108	1,026	50	.....	1,184	437	500	.....	247	1,184
236	175	49	69	.....	.....	485	.....	.....	.....	50	4	11	843	93	959	.....	.....	1,052	375	.....	106	43	524
237	253	110	179	.....	207	1,479	.....	.....	.....	100	55	57	2,440	81	2,237	.....	375	2,693	1,343	.....	307	330	1,980
238	367	194	781	55	.....	2,694	.....	.....	412	.....	352	128	4,983	.....	226	.....	600	826	.....	7,088	26	.....	7,114
239	409	104	499	48	91	2,133	.....	.....	.....	.....	.....	58	3,342	310	2,528	.....	600	3,438	2,557	.....	.....	181	2,738
240	608	345	1,866	72	1,222	6,555	206	.....	.....	.....	2	909	11,785	976	3,068	.....	1,500	5,544	18	.....	2,722	22	2,762
241	863	257	1,798	210	1,166	7,113	36	9,114	30,606	.....	2,966	252	54,381	1,322	5,011	3,040	322	9,695	2,361	12,000	1,000	145	15,566
242	634	188	1,360	145	2,167	4,492	.....	.....	.....	350	5	102	9,443	806	895	.....	606	2,307	.....	.....	.....	.....	.....
243	1,257	519	5,894	161	5,482	9,612	.....	13,770	208	140	223	450	37,719	.....	929	40,076	.....	41,005	.....	1,372	3,842	.....	5,214
244	650	241	1,025	181	7,046	4,924	.....	.....	.....	.....	.....	45	14,112	7,650	1,450	1,650	4,100	11,850	7,046	.....	.....	.....	7,046
245	621	123	1,376	337	1,412	3,072	2	.....	.....	.....	1	61	7,005	1,528	21	.....	613	2,162	.....	.....	.....	1	1
246	429	184	1,109	15	.....	3,981	.....	.....	.....	.....	.....	60	5,778	2,787	121	.....	2,075	4,983	1,628	.....	.....	.....	1,628
247	160	56	47	.....	.....	617	27	100	45	.....	27	3	1,082	107	161	72	206	546	46	405	.....	.....	451
248	364	145	405	5	824	2,922	.....	.....	.....	.....	.....	36	4,698	545	985	.....	300	1,830	.....	.....	.....	361	361
249	798	203	1,541	119	1,692	5,888	72	.....	.....	.....	.....	135	10,448	1,056	4,572	.....	.....	5,628	2,249	.....	.....	.....	2,249
250	301	38	295	.....	118	1,268	.....	.....	.....	.....	.....	84	2,104	210	92	.....	.....	302	.....	.....	.....	.....	.....
251	284	73	186	29	249	1,449	.....	1,500	.....	.....	251	8	4,029	521	.....	5,222	.....	5,743	249	5,000	.....	.....	5,249
252	705	284	3,947	75	1,953	5,462	.....	.....	190	2,460	111	184	15,311	1,516	831	.....	5,252	7,599	1,955	.....	.....	147	2,102
253	694	165	588	5	.....	4,831	.....	221	.....	.....	250	78	6,832	2,379	95	2,524	.....	4,998	1,306	5,000	.....	.....	6,306
254	287	90	226	.....	103	828	.....	.....	.....	.....	2	27	1,563	122	1,360	.....	51	1,533	759	.....	.....	142	901
255	443	126	363	5	201	2,333	30	.....	.....	945	39	320	4,805	190	5,040	.....	800	6,030	332	.....	1,910	564	2,806
256	713	610	4,199	177	4,436	4,517	31	.....	474	.....	198	57	15,412	7,247	5,946	.....	1,600	14,793	4,705	3,686	.....	1,001	9,392
257	849	266	1,515	39	1,572	6,079	111	46	75	.....	26	414	10,992	27	11,032	46	70	11,175	7,010	305	.....	878	8,193
258	771	382	2,936	239	3,411	3,752	3,743	818	747	1,500	369	200	18,868	2,142	245	818	2,072	5,277	55	7,786	.....	1,187	9,028
259	1,818	639	13,299	435	9,587	10,941	.....	.....	413	.....	83	2,179	39,394	18,430	7,014	.....	3,540	28,984	10,479	1,683	.....	.....	12,162
260	165	51	120	.....	645	1,241	194	.....	.....	60	.....	15	2,491	.....	1,206	.....	.....	1,206	1,184	.....	.....	.....	1,184
261	461	206	562	42	2,592	4,311	.....	.....	253	.....	71	98	8,596	58	2,703	.....	.....	2,761	1,152	1,149	.....	372	2,673
262	488	120	2,189	50	1,998	3,418	.....	.....	312	.....	50	172	8,792	184	2,279	.....	330	2,793	807	710	.....	.....	1,517
263	524	250	1,191	12	1,062	2,485	431	.....	1,065	1,800	574	92	9,489	1,033	155	.....	3,442	4,630	.....	10,042	.....	135	10,177

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Township Municipalities.	County in which located.	Population, 1899.	No. of acres assessed, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and School taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$ c.		$	$	$	$	$	$	$	$
264	Luther W	Wellington	2,081	49,785	848,460	10,005	4 81	11.8	1,495	8,482	.....	.....	2,450	.....	57	12,484
265	Lutterworth	Haliburton	426	22,464	35,738	1,351	3 17	37 8	217	1,245	.....	.....	.....	.....	43	1,505
266	McDougall	Parry Sound	431	27,879	66,416	1,734	4 02	26.1	97	1,369	.....	.....	.....	.....	11	1,477
267	McGillivray	Middlesex	2,955	66,817	2,031,900	14,215	4 81	7.0	3,026	14,990	.....	21	2,300	.....	85	20,422
268	McIrvine (Fort Francis)	Rainy River	260	3,370	99,156	3,519	13 53	35.5	....	1,561	.....	.....	.....	2,500	296	4,357
269	McKellar	Parry Sound	490	28,963	77,910	1,986	4 05	25.5	128	1,460	.....	.....	100	.....	95	1,783
270	McKillop	Huron	2,679	52,158	1,994,100	11,178	4 17	5.6	1,425	9,813	600	820	1,000	.....	217	13,875
271	McKim	Nipissing	1,570	18,396	113,103	3,706	2 36	32.8	951	2,827	.....	.....	.....	.....	19	3,797
272	McLean and Ridout	Muskoka	715	38,924	96,898	1,647	2 30	17 0	175	1,585	.....	.....	.....	1,025	73	2,858
273	McMurrich	Parry Sound	749	38,325	115,663	2,013	2 69	17.4	98	1,733	.....	.....	.....	.....	78	1,909
274	McNab	Renfrew	3,476	63,093	1,076,597	8,497	2 44	7.9	1,523	8,008	.....	22	2,000	.....	586	12,139
275	Macaulay	Muskoka	611	36,665	95,996	2,291	3 75	23.9	132	3,015	.....	.....	.....	.....	80	3,227
276	Macdonald and Meredith	Algoma	610	18,253	63,301	1,295	2 12	20.5	105	1,044	.....	2	.....	.....	11	1,162
277	Machar	Parry Sound	770	36,222	105,512	2,059	2 67	19 5	222	2,287	.....	.....	150	.....	47	2,706
278	Madoc	Hastings	2,644	67,747	502,960	11,217	4 24	22 3	986	3,098	.....	.....	2,300	.....	1,954	13,338
279	Maidstone	Essex	2,894	44,555	810,855	16,721	5 78	20 6	650	15,250	.....	31	3,000	5,416	372	24,719
280	Malahide	Elgin	3,706	62,355	1,922,945	22,341	6 03	11.6	3,611	20,778	.....	58	1,500	.....	128	26,105
281	Malden	Essex	1,390	20,829	736,280	7,368	5 30	10 0	258	6,370	.....	.....	2,400	200	88	9,316
282	Manvers	Durham	3,075	69,676	843,550	10,572	3 44	12.5	591	8,492	.....	.....	500	.....	259	9,842
283	Mara	Ontario	2,945	61,334	957,001	9,874	3 35	10 3	584	10,125	.....	55	3,600	.....	565	14,929
284	March	Carleton	1,116	28,020	366,242	3,608	3 23	9.9	254	3,146	.....	48	.....	.....	50	3,498
285	Mariposa	Victoria	3,900	74,899	2,590,340	19,086	4 89	7.4	8,937	19,089	.....	78	.....	.....	17	28,121
286	Markham	York	5,157	66,840	3,206,245	22,395	4 34	7.0	710	22,286	.....	85	1,000	.....	551	24,632
287	Marlborough	Carleton	1,578	57,905	455,020	4,440	2 81	9.8	880	4,710	.....	.....	.....	.....	254	5,844
288	Marmora and Lake	Hastings	2,321	108,018	303,684	7,488	3 23	24 7	58	7,272	.....	.....	982	.....	453	8,765
289	Maryborough	Wellington	2,947	56,379	1,725,245	13,982	4 74	8 1	5,393	13,283	.....	33	.....	.....	145	18,854
290	Marysburg N	Prince Edward	1,115	23,577	495,100	4,260	3 82	8.6	1,213	3,885	.....	298	100	.....	1	5,497
291	Marysburg S	Prince Edward	1,320	23,246	429,535	3,899	2 95	9.1	431	3,765	511	632	.....	.....	363	5,702
292	Mattawan	Nipissing	253	11,998	24,795	642	2 54	25.9	159	430	.....	.....	160	.....	.....	749
293	Matchedash	Simcoe	497	18,496	55,865	1,015	2 04	18.2	148	1,067	104	21	.....	.....	125	1,465
294	Matilda	Dundas	3,726	62,602	1,348,750	18,673	5 01	13.8	.....	16,459	.....	.....	6,488	800	145	23,892
295	Mayo	Hastings	539	19,114	26,975	1,382	2 56	51.2	24	1,894	.....	.....	.....	.....	296	2,214
296	Medonte	Simcoe	4,012	65,863	552,875	12,677	3 16	22.9	738	12,327	.....	21	300	625	503	14,514
297	Medora and Wood	Muskoka	917	59,072	211,168	4,139	4 51	19.6	138	3,900	.....	.....	.....	.....	181	4,219

No.	Disbursements, 1898.													Assets on December 31, 1898.					Liabilities on December 31, 1898.				
	Allowances, salaries and commissions.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of schools and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
264	606	130	947	.....	3,301	2,812	164	24	1,087	2,450	486	215	12,222	262	792	150	785	1,989	1,065	8,102	.....	213	9,380
265	234	60	151	.....	112	657	.....	.....	.....	.....	.....	3	1,217	288	793	.....	322	1,403	607	.....	.....	10	617
266	203	57	272	5	....	505	.....	.....	.....	.....	24	24	1,090	387	1,447	.....	30	1,864	298	.....	300	...	598
267	765	84	5,809	.....	3,105	6,426	.....	.....	.....	2,300	70	110	18,669	1,753	39	.....	1,100	2,892	.....	.....	.....	.....	.....
268	167	107	623	.....	.....	3,232	.....	.....	.....	.....	.....	227	4,356	1	601	.....	2,700	3,302	119	2,500	.....	19	2,638
269	243	166	357	7	.....	711	.....	.....	.....	100	13	111	1,708	75	1,493	.....	191	1,759	768	200	.....	12	980
270	704	123	2,456	104	2,297	4,385	262	232	.....	1,000	14	15	11,592	2,283	...	14,582	.....	16,865	112	.....	.....	503	615
271	356	45	367	5	.....	1,387	.....	.....	108	.....	55	104	2,427	1,370	3,503	.....	.....	1,873	2,491	802	.....	68	3,361
272	154	126	250	42	.....	1,578	.....	.....	78	.....	55	150	2,433	425	1,219	.....	1,010	2,654	396	1,197	.....	.....	1,593
273	241	94	335	19	.....	972	.....	.....	61	.....	49	94	1,865	44	2,528	....	367	2,939	1,068	739	.....	.....	1,807
274	604	171	3,864	74	1,510	4,287	....	.....	570	...	50	28	11,158	981	1,911	.....	500	3,392	710	270	2,000	232	3,212
275	326	89	758	5	.....	1,665	.....	.....	.....	.....	12	112	2,967	260	585	.....	665	1,510	475	.....	207	173	855
276	145	72	210	3	.....	618	.....	.....	.....	.....	.....	8	1,056	106	345	.....	.....	451	....	....	....	.....	.....
277	231	52	101	6	.....	1,349	.....	.....	58	250	99	50	2,196	510	1,399	....	1,675	3,584	573	1,440	.....	29	2,042
278	507	527	627	127	52	4,913	...	.....	345	2,410	2,288	223	12,019	1,319	5,909	.....	4,697	11,925	5,355	37,914	2,386	.....	45,655
279	975	447	2,065	360	1,963	3,859	5,468	.....	2,463	4,422	716	850	23,578	1,141	16,988	.....	2,139	20,268	6,436	13,778	3,000	4,703	27,917
280	1,146	439	4,206	33	4,602	6,494	215	.....	796	1,500	524	122	20,077	6,028	901	.....	230	7,159	.....	10,592	...	140	10,732
281	533	170	2,564	36	1,135	1,350	200	.....	53	1,900	100	333	8,974	342	5,365	....	1,056	6,763	2,785	382	2,498	285	5,950
282	795	403	974	476	1,760	4,235	...	.....	131	500	35	358	9,667	175	3,428	.....	7	3,610	2,191	287	.....	94	2,572
283	931	206	2,452	104	1,050	3,713	677	.....	954	3,600	224	357	14,268	661	.....	.....	1,800	2,461	...	1,509	.....	240	1,749
284	263	87	393	14	633	1,513	21	.....	.....	.....	.....	57	2,981	517	1,428	400	1,000	3,345	1,053	.....	.....	.....	1,053
285	979	400	1,218	322	5,567	7,869	213	..	977	... ..	501	206	18,255	9,866	.....	.....	4,775	14,641	5,567	10,436	.....	38	16,041
286	1,187	534	4,003	171	113	8,862	.....	.....	198	600	123	171	15,962	8,670	2,160	.....	2,213	13,043	6,997	1,993	400	323	9,713
287	523	158	918	29	826	2,571	.....	.....	136	116	43	101	5,421	423	2,652	.....	400	3,475	1,067	444	135	28	1,674
288	453	199	683	183	1,849	4,534	.....	.....	258	.....	150	136	8,445	320	3,690	.....	1,940	5,950	1,751	2,930	982	378	6,041
289	894	259	2,342	60	4,001	6,346	173	.....	120	.....	36	121	14 352	4,502	865	.....	530	5,897	3,590	480	.....	150	4,220
290	213	66	116	84	1,020	2,637	.....	153	.....	100	15	43	4,447	1,050	240	7,052	1,260	9,542	1,190	... ..	159	73	1,422
291	376	155	253	104	1,068	2,460	.....	515	.....	320	87	108	5,446	256	266	10,064	850	11,436	...	.....	1,266	.....	1,266
292	76	23	28	....	.....	321	...	.....	.....	80	.....	160	688	61	517	250	290	1,118	150	.....	80	138	368
293	150	50	295	.....	45	402	.....	.....	104	.....	21	19	1,086	379	606	371	17	1,373	509	371	.....	.....	880
294	471	239	1,446	534	4,241	7,215	580	.....	2,657	5,143	1,003	363	23,892	.....	4,714	.....	1,130	5,844	2,324	18,872	1,475	1,566	24,237
295	269	96	238	.....	164	1,113	....	.....	145	.....	44	... .	2,069	145	1,956	.....	.....	2,101	1,034	425	.....	255	1,714
296	796	562	2,755	152	1,500	5,076	675	.....	555	550	149	75	12,845	1,669	1,609	... ..	1,900	5,178	1,420	2,815	.....	75	4,310
297	288	265	669	32	.....	2,186	.... .	30	200	.....	93	56	3,819	400	5,046	90	737	6,273	2,564	1,350	.....	735	4,649

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Township Municipalities.	County in which located.	Population, 1899.	No. of acres assessed, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$ c.		$	$	$	$	$	$	$	$
298	Melancthon	Dufferin	3,471	74,742	823,000	12,313	3 55	15.0	106	12,349	.....	218	4,014	900	865	18,452
299	Mersea	Essex	3,827	62,000	1,830,539	30,102	7 87	16.4	10,087	26,104	.....	.....	.....	12,024	1,012	49,227
300	Metcalfe	Middlesex	1,554	36,192	1,001,995	9,321	6 00	9.3	498	11,229	.....	.....	3,100	.....	169	14,996
301	Middleton	Norfolk	2,689	44,834	769,113	9,964	3 71	13.0	41	8,580	.....	13	.....	.....	461	9,095
302	Minden	Haliburton	1,165	36,066	86,675	3,360	2 88	38.8	26	4,174	.....	.....	.....	600	46	4,846
303	Minto	Wellington	3,036	69,446	1,848,415	13,416	4 42	7 3	330	14,447	26,038	660	3,100	.....	91	44,666
304	Monaghan N	Peterborough	890	13,923	612,000	4,462	5 01	7.3	352	4,982	.....	.....	1,150	.....	243	6,727
305	Monaghan S	Northumberland	840	18,374	536,375	4,328	5 15	8.1	3	4,726	.....	44	.....	.....	102	4,875
306	Monck	Muskoka	872	28,304	183,183	2,425	2 78	13.2	552	2,462	.....	.....	300	1,550	231	5,095
307	Monmouth	Haliburton	427	19,524	29,498	1,717	4 02	58.2	36	1,415	.....	.....	.....	500	17	1,968
308	Mono	Dufferin	3,139	68,776	727,390	13,341	4 25	18.3	50	11,122	.....	1	2,000	.....	31	13,204
309	Montague	Lanark	1,848	62,525	583,962	6,691	3 62	11.5	642	6,066	.....	22	.....	.....	359	7,089
310	Monteagle and Herschel	Hastings	1,752	65,723	72,064	3,153	1 80	43.8	229	2,464	.....	.....	71	.....	318	3,082
311	Moore	Lambton	4,689	72,769	1,799,415	27,227	5 81	15.1	3,716	26,274	.....	.....	.....	9,113	843	39,946
312	Mornington	Perth	3,048	50,063	1,745,825	18,531	6 08	10.6	595	16,210	.....	22	4,050	1,108	751	22,736
313	Morris	Huron	2,642	55,352	1,735,310	8,737	3 31	5.0	2,748	8,572	.....	.....	1,000	.....	122	12,442
314	Morrison	Muskoka	849	23,414	78,995	1,953	2 30	24.7	142	1,717	.....	4	300	.....	46	2,209
315	Mosa	Middlesex	2,658	47,179	579,430	12,225	4 60	21.1	337	12,110	.....	.....	2,402	1,000	125	15,974
316	Moulton	Haldimand	1,868	27,000	597,991	6,921	3 71	11.6	.....	6,149	.....	226	1,615	.....	67	8,057
317	Mountain	Dundas	3,311	57,750	1,361,050	12,293	3 71	9.0	1,341	17,735	.....	.....	1,100	.....	436	20,612
318	Mulmur	Dufferin	2,792	70,221	1,333,680	12,493	4 47	9.4	627	12,715	.....	.....	1,300	.....	96	14,738
319	Murray	Northumberland	2,887	48,464	1,192,325	9,440	3 27	7.9	71	9,403	.....	.....	761	.....	218	10,453
320	Muskoka	Muskoka	783	35,038	96,640	2,041	2 61	21.1	4	2,436	50	.....	.....	.....	31	2,521
321	Nairn, Hyman and Lorne	Algoma	420	16,253	54,082	1,056	2 51	19.5	71	274	.....	.....	.....	.....	82	427
322	Nassagaweya	Halton	2,383	44,798	997,400	7,738	3 25	7.8	.....	7,211	30	452	400	.....	44	8,137
323	Neebing	Thunder Bay	174	121,442	182,888	4,198	24 13	23.0	359	2,905	.....	22	.....	.....	269	3,555
324	Nelson	Halton	2,820	46,366	1,783,070	10,924	3 87	6.1	1,632	10,640	2,342	972	600	.....	5	16,191
325	Nepean	Carleton	4,713	57,963	2,232,270	18,102	3 84	8.1	.....	17,559	.....	741	.....	.....	659	18,959
326	Niagara	Lincoln	1,832	22,339	890,930	8,951	4 89	10.0	126	8,098	.....	19	853	....	103	9,199
327	Nichol	Wellington	1,745	26,689	1,073,685	7,860	4 50	7.3	203	6,579	.....	6	261	.....	156	7,205
328	Nipissing	Parry Sound	644	27,703	96,868	995	1 55	10.3	3	1,156	.....	.....	.....	.....	48	1,207
329	Nissouri E	Oxford	2,596	46,483	2,116,725	12,367	4 76	5.8	688	11,473	.....	7	1,100	.....	68	13,336
330	Nissouri W	Middlesex	2,640	49,500	1,451,505	14,335	5 43	9.9	2,852	14,366	.....	.....	2,400	.....	128	19,746
331	Normanby	Grey	4,501	68,144	1,483,495	13,337	2 96	9.0	1,401	13,224	29,785	1,060	1,000	.....	951	47,421

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Disbursements, 1898.													Assets on December 31, 1898.					Liabilities on December 31, 1898.				
	Allowances, salaries and commissions.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of schools and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
298	552	905	1,492	30	2,313	5,166	187	133	2,734	4,000	864	76	18,452	.....	5,656	1,797	1,200	8,653	3,442	7,283	2,531	.....	13,256
299	1,250	685	2,555	588	2,422	7,961	10,139	.....	7,896	.....	2,914	9,600	46,010	3,217	20,884	.....	5,708	29,809	2,984	60,574	.....	4,659	68,217
300	698	228	4,754	2	2,506	2,909	688	.....	443	1,100	72	295	13,695	1,301	5,486	.....	1,795	8,582	2,658	.....	2,067	174	4,899
301	613	158	1,961	78	1,563	3,619	305	.....	408	.....	88	259	9,082	13	4,217	.....	3,075	7,305	1,387	3,629	.....	686	5,702
302	300	64	484	.....	592	3,152	.....	.....	36	.....	6	84	4,718	128	2,511	.....	731	3,370	3,689	649	.....	75	4,413
303	898	190	2,912	52	1,822	4,689	.....	3,357	25,000	3,100	2,411	47	44,478	188	4,363	572	621	5,744	3,436	.....	.....	100	3,536
304	302	174	1,298	35	1,218	1,323	.....	.....	39	2,050	58	16	6,513	214	1,495	.....	1,292	3,001	1,224	82	100	42	1,448
305	273	436	698	38	814	1,838	.....	370	.....	.....	90	38	4,595	280	513	1,110	.....	1,903	.....	2,000	.....	.....	2,000
306	316	112	348	5	.....	2,655	.....	.....	163	300	96	512	4,507	588	15	.....	.....	603	.....	2,107	.....	.....	2,107
307	138	108	62	75	175	1,264	.....	.....	.....	..	.....	113	1,935	33	2,429	.....	500	2,962	1,664	500	.....	.....	2,164
308	737	234	2,727	25	1,899	5,449	.....	.....	.....	2,000	48	63	13,182	22	1,115	.....	.....	1,137	1,234	...	.....	241	1,475
309	413	163	423	15	1,189	3,650	102	.....	100	663	44	44	6,806	283	1,642	.....	1,050	2,975	232	100	..	.....	332
310	467	50	358	11	191	1,739	.....	.....	107	.....	73	86	3,082	.....	3,618	.....	100	3,718	2,339	1,105	71	426	3,941
311	1,436	1,168	4,844	527	2,367	6,535	8,989	... ..	6,928	.....	2,331	761	35,886	4,060	16,221	.....	35,705	55,986	6,617	38,597	....	5,187	50,371
312	838	373	4,038	78	4,050	4,583	1,001	.....	1,331	4,050	1,416	258	22,016	720	...	.....	.....	720	1,250	32,329	.....	.....	33,579
313	736	150	1,518	37	2,656	3,614	107	.....	.....	1,000	25	56	9,899	2,543	822	.....	300	3,665	1,948	.....	.....	.....	1,918
314	238	70	347	3	.....	1,349	.....	.....	.....	.....	... ..	67	2,074	135	1,442	.....	.....	1,577	855	.....	300	20	1,175
315	675	253	1,705	13	2,988	4,711	2,164	.....	2,240	.....	425	800	15,974	.....	9,625	.....	130	9,755	3,473	7,312	2,413	802	14,000
316	375	310	458	122	997	2,292	579	79	.....	2,571	129	145	8,057	.....	175	4,463	309	4,947	.....	.....	1,615	.....	1,615
317	463	827	1,041	185	2,455	6,461	333	.....	.....	6,517	330	313	18,928	1,684	225	623	200	2,732	1,494	.....	100	.....	1,594
318	757	201	1,210	33	3,258	5,510	.....	.....	1,400	1,300	414	265	14,348	390	2,826	9,000	600	12,816	2,210	4,700	.....	.....	6,910
319	764	261	1,529	26	1,518	5,109	....	.....	250	568	62	366	10,453	.....	1,438	.....	2,000	3,438	.....	750	193	.....	943
320	217	72	352	25	.....	1,630	.....	....	.....	.....	.....	68	2,364	157	900	.....	25	1,082	380	.....	.....	40	420
321	71	38	.....	5	.....	268	.....	.....	.....	25	.....	10	417	10	1,880	.....	.....	1,890	427	.....	300	79	806
322	585	202	1,661	282	1,206	3,171	....	1	.....	729	5	168	8,010	127	2,762	9,042	1,200	13,131	.....	.....	.....	9	9
323	654	314	384	135	.....	467	.....	375	.....	200	608	223	3,360	195	4,288	1,105	1,016	6,604	.....	10,500	900	717	12,117
324	887	311	1,638	658	2,153	6,149	.....	1,950	251	600	36	747	15,380	811	444	26,154	2,769	30,178	1	265	.....	29	295
325	1,340	401	1,415	2	2,950	8,815	86	.....	325	1,694	199	361	17,588	1,371	15,050	9,500	7,003	32,924	11,847	3,250	.....	.....	15 097
326	719	141	1,459	62	3,311	2,865	.....	.....	66	500	24	52	9,199	.....	4,994	.....	.....	4,994	4,122	.....	353	.....	4,475
327	675	258	1,160	11	2,453	2,535	.....	.....	.....	.....	6	107	7,205	.....	3,475	.....	44	3,519	2,201	.....	261	110	2,572
328	217	78	31	.....	.....	654	.....	.....	.....	150	14	51	1,195	12	1,303	.....	107	1,422	636	.....	100	66	802
329	454	127	2,709	.....	3,638	4,005	.. ..	...	.....	1,100	19	122	12,174	1,162	140	.....	4	1,306	4	.....	.....	55	59
330	816	157	3,349	92	3,561	4,379	77	.....	.....	2,400	59	167	15,057	4,689	3,932	.....	.....	8,621	4,837	.....	2,001	.....	6,838
331	866	363	3,745	170	2,675	6,491	.....	612	29,000	1,000	1,233	176	46,331	1,090	6	.....	1,000	2,096	.....	.....	.....	.....	.....

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Township Municipalities.	County in which located.	Population, 1899.	No. of acres assessed, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$ c.		$	$	$	$	$	$	$	$
332	Norwich N	Oxford	2,227	33,870	1,514,580	10,963	4 92	7.2	1,894	10,912	.....	16	1,400	.....	72	14,294
333	Norwich S	Oxford	2,382	35,707	1,005,096	9,588	4 03	9.5	1,695	9,635	.....	41	.....	.....	204	11,575
334	Nottawasaga	Simcoe	5,416	90,467	2,067,737	21,288	3 93	10.3	624	18,102	.....	.....	1,500	1,000	336	21,562
335	Oakland	Brant	728	10,361	400,840	3,214	4 41	8 0	414	3,186	725	293	.....	.....	4	4,622
336	Oakley	Muskoka	371	21,918	38,698	1,029	2 77	26.6	62	836	.....	.....	.....	.....	23	921
337	Olden	Frontenac	926	51,456	114,013	4,129	4 46	36.2	454	3,437	.....	...	.....	.....	11	3,902
338	Oliver	Thunder Bay	344	33,296	106,056	1,386	4 03	13.1	618	1,437	123	11	.....	.....	47	2,236
339	Oneida	Haldimand	1,460	32,579	958,265	7,745	5 30	8.1	312	8,734	.....	.....	2,200	.....	23	11,269
340	Onondaga	Brant	1,166	20,562	703,644	5,063	4 34	7.2	1,123	5,491	.....	.....	.....	.....	38	6,655
341	Ops	Victoria	2,258	56,404	1,562,425	13,037	5 77	8.3	7,233	13,371	.....	48	100	200	382	21,334
342	Orford	Kent	2,586	49,816	1,433,620	15,559	6 02	10.9	5,055	15,068	.....	.....	1,932	1,012	120	23,187
343	Orillia	Simcoe	3,620	71,743	572,271	10,737	2 97	18.8	809	12,057	.....	....	500	.....	179	13,545
344	Oro	Simcoe	3,970	73,246	1,053,590	12,837	3 23	12.2	1,065	12,134	.....	63	.....	.....	527	13,789
345	Osgoode	Carleton	4,650	91,187	1,574,885	16,668	3 58	10.6	3,918	13,667	40	26	700	1,188	969	20,508
346	Osnabruck	Stormont	4,696	60,040	1,187,121	15,590	3 32	13.1	1,946	14,756	.....	.....	12,272	4,432	484	33,890
347	Oso	Frontenac	1,020	42,503	77,059	3,253	3 19	42.2	110	2,417	.....	.....	.....	.....	147	2,674
348	Osprey	Grey	3,222	69,407	800,565	8,145	2 53	10.2	...	7,905	.....	.....	100	.....	309	8,314
349	Otonabee	Peterborough	3,326	64,569	1,983,057	13,760	4 14	6.9	2,456	13,635	.....	10	900	.....	62	17,063
350	Oxford-on-Rideau	Grenville	2,649	59,574	786,450	9,299	3 51	11.8	793	9,079	.....	9	1,485	.....	100	11,466
351	Oxford E	Oxford	1,936	34,549	1,479,805	10,865	5 61	7.3	2,275	8,411	.....	56	.....	.....	21	10,763
352	Oxford N	Oxford	1,313	21,132	874,207	5,966	4 54	6.8	829	6,049	.....	15	500	.....	181	7,574
353	Oxford W	Oxford	2,040	25,855	1,090,515	7,717	3 78	7.1	2,862	7,204	.....	50	.....	.....	817	10,933
354	Pakenham	Lanark	1,902	56,191	619,341	6,797	3 57	11.0	538	6,002	.....	.....	.....	.....	156	6,696
355	Palmerston, Canonto N. & S.	Frontenac	1,055	56,319	59,785	2,184	2 07	36.5	196	2,978	.....	.....	.....	.....	131	3,305
356	Papineau	Nipissing	610	24,543	64,180	796	1 30	12.4	.....	669	.....	.....	200	.....	.....	869
357	Peel	Wellington	3,925	74,521	1,905,966	17,928	4 57	9.4	.....	16,050	.....	5	2,000	.....	475	18,530
358	Pelee Island	Essex	648	9,797	274,840	7,996	12 37	29.1	2,582	5,274	.....	99	600	.....	44	8,599
359	Pelham	Welland	2,402	28,832	983,585	7,592	3 16	7.7	97	7,466	2,628	1,380	1,074	.....	61	12,706
360	Pembroke	Renfrew	628	8,709	198,470	1,731	2 76	8.7	251	1,564	.....	.....	.....	.....	.....	1,815
361	Percy	Northumberland	2,992	51,458	967,900	11,456	3 83	11.8	86	11,422	.....	.....	1,600	.....	254	13,362
362	Perry	Parry Sound	1,453	43,485	215,322	3,518	2 42	16.3	223	4,367	.....	.....	.....	1,200	207	5,997
363	Petewawa	Renfrew	974	28,743	43,333	1,604	1 65	37.0	33	1,194	.....	.....	.....	.....	19	1,246
364	Pickering	Ontario	5,428	71,411	3,392,304	23,071	4 25	6.8	.....	25,377	.....	.....	20,330	.....	578	46,285
365	Pilkington	Wellington	1,458	29,076	1,042,231	8,225	5 68	7.9	81	6,634	.....	.....	300	.....	132	7,147

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Disbursements, 1898.													Assets on December 31, 1898.					Liabilities on December 31, 1898.				
	Allowances, salaries and commissions.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of schools and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
332	646	120	3,526	7	2,650	3,941	85	.....	101	1,400	38	200	12,709	1,585	44	.....	200	1,829	.....	101	.....	1,125	1,226
333	465	296	1,760	18	1,990	4,354	176	.....	248	.....	38	137	9,482	2,093	27	127	2,300	4,547	.....	533	.....	.....	533
334	1,476	913	3,043	113	6,955	6,794	.....	.....	288	1,000	147	248	20,977	585	10,150	.....	1,997	12,732	6,176	1,417	1,500	1,543	10,636
335	307	46	275	90	539	1,405	.....	.....	500	.....	275	649	4,176	446	17	4,544	.....	5,007	.....	5,000	.....	.....	5,000
336	139	60	41	77	.. .	392	.....	.....	.....	150	12	10	881	40	726	.....	.....	766	294	.....	.....	.....	294
337	437	208	324	71	250	1,728	.....	.....	.....	.....	.....	169	3,187	715	2,097	.....	1,000	3,812	2,694	.....	.....	179	2,873
338	237	125	251	....	.....	723	... .	134	.....	...	50	27	1,550	686	1,612	1,384	1,100	4,782	.....	2,000	.....	50	2,050
339	427	144	2,729	134	.....	3,342	.....	.....	... ..	2,200	72	131	9,179	2,090	338	....	1,000	3,428	1,970	. ....	.....	.....	1,970
340	477	142	1,113	178	1,061	2,084	...	.....	537	.....	27	82	5,704	951	78	.....	3,053	4,082	41	.....	.....	.....	41
341	654	238	3,316	160	3,509	4,182	468	.....	590	.....	184	70	13,371	7,963	419	.....	4,511	12,893	3,532	4,162	.....	.....	7,694
342	933	748	2,239	360	4,262	4,233	2,575	.....	1,392	4,800	513	161	22,216	971	8,527	.....	.....	9,498	4,017	12,354	132	2,068	18,571
343	896	585	1,377	62	800	6,936	.....	.....	738	.....	254	626	12,274	1,271	3,322	.....	410	5,003	1,280	3,994	500	6	5,780
344	805	292	1,323	229	3,291	5,306	.....	.....	499	. ..	53	87	11,885	1,904	3,892	.....	1,358	7,154	3,197	389	... ..	99	3,685
345	880	389	2,848	47	2,700	7,541	1,481	211	1,044	500	524	328	18,493	2,015	.....	15,211	3,700	20,926	.....	8,932	203	250	9,385
346	677	719	1,078	272	3,730	8,471	185	.. ..	510	13,871	313	3,051	32,877	1,013	2,945	.....	5,194	9,152	.....	19,885	.....	890	20,775
347	298	259	270	31	401	1,216	.....	....	50	.....	16	128	2,669	5	1,737	.....	511	2,253	1,457	200	.....	91	1,748
348	792	268	950	230	1,705	3,849	.....	.....	.....	160	3	72	8,029	285	3,768	.....	.....	4,053	2,325	.....	.....	500	2,825
349	603	470	2,702	330	4,404	5,804	.....	.....	57	900	6	32	15,308	1,755	5,265	.....	3,550	10,570	4,459	56	.....	383	4,898
350	670	143	403	32	2,015	4,990	358	62	... ..	1,200	69	124	10,066	1,400	1,084	384	6,000	8,868	2,017	832	... ..	285	3,134
351	534	141	1,854	....	2,716	3,498	.....	.....	.....	.....	.....	66	8,809	1,954	224	.....	601	2,779	3	....	.....	.....	3
352	453	103	1,467	12	1,580	2,305	130	.....	.....	500	9	69	6,628	946	30	.....	190	1,166	.....	.....	.....	60	60
353	708	149	1,443	20	1,970	3,611	332	.....	.....	.....	.....	118	8,351	2,582	369	.....	895	3,846	.....	.....	.....	5	5
354	464	244	685	58	1,012	3,126	.....	.....	300	.....	169	111	6,169	527	799	.....	1,000	2,326	.....	3,200	.....	120	3,320
355	340	98	158	26	100	1,370	.....	.....	300	.....	108	442	2,912	363	802	.....	145	1,310	670	1,800	. ....	35	2,505
356	172	28	3	.....	.....	501	.....	.....	...	135	4	1	844	25	505	.....	.....	530	104	.....	102	46	252
357	928	261	2,396	58	4,844	6,551	46	....	315	2,245	307	81	18,032	498	229	.....	68	795	.....	4,664	.....	39	4,703
358	435	192	461	1	40	1,898	1,641	.....	1,293	.....	1,292	52	7,305	1,294	5,039	.....	32,547	38,880	1,080	21,686	2,300	231	25,297
359	567	279	1,078	22	2,286	4,006	.. ..	2,628	.....	.....	.....	62	10,928	1,778	1,107	17,575	5,372	25,832	1,354	.....	1,074	527	2,955
360	203	4	161	.....	244	656	.....	.....	.....	.....	.....	.....	1,268	547	619	.....	200	1,366	538	.....	.....	26	564
361	586	361	2,676	49	1,579	5,611	.....	.....	450	1,600	80	284	13,276	86	427	.....	8,400	8,913	.....	384	.....	10	394
362	325	75	349	26	.....	3,713	.....	.....	209	.....	67	74	4,838	1,159	2,488	.....	.....	3,647	2,439	2,535	.....	69	5,043
363	122	47	.....	.....	151	847	.....	.....	50	.....	9	3	1,229	17	691	.....	.....	708	151	478	.....	19	648
364	1,494	466	4,422	889	4,925	9,072	.....	.....	2,877	20,943	870	327	46,285	.....	2,487	1,000	1,950	5,437	2,153	10,099	1,038	150	13,440
365	565	234	1,390	15	2,327	1,687	.....	.....	.....	662	75	118	7,073	74	4,168	.....	30	4,272	3,378	.....	890	.....	4,268

No.	Township Municipalities.	County in which located.	Population, 1899.	No. of acres assessed 1899.	Assessed value of real and personal property and income taxable.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$ c.		$	$	$	$	$	$	$	$
366	Pittsburg	Frontenac	2,097	48,161	811,048	11,968	5 71	14.8	5,805	11,680	.....	28	.....	.....	169	17,682
367	Plantagenet N.	Prescott	3,778	49,916	405,435	9,872	2 61	24.3	163	9,422	.....	.....	.....	.....	455	10,040
368	Plantaganet, S.	Prescott	3,306	48,873	393,965	8 807	2 66	22.4	574	8,130	.....	.....	425	.....	185	9,314
369	Plummer Additional	Algoma	612	16,059	96,400	2,292	3 75	23.8	518	1,222	.....	.....	200	.....	111	2,051
370	Plympton	Lambton	3,414	75,005	2,049,590	20,825	6 10	10.2	.....	25,135	.....	.....	3,000	3,490	1,688	33,313
371	Portland	Frontenac	2,122	52,781	460,782	8,169	3 85	17.7	.....	8,249	500	164	522	.....	100	9,535
372	Prince	Algoma	133	20,951	39,781	628	4 72	15.8	31	211	.....	.....	300	.....	.....	542
373	Proton	Grey	2,978	80,589	813,620	9,593	3 22	11.8	1	9,832	.....	25	500	1,234	515	12,107
374	Puslinch	Wellington	3,468	58,504	1,441,955	11,242	3 24	7.8	986	10,401	403	496	.....	.....	555	12,841
375	Radcliffe and Raglan	Renfrew	1,038	37,586	77,935	2,051	1 98	26.3	9	2,133	.....	.....	.....	.....	150	2,292
376	Rainham	Haldimand	1,714	25,556	544,400	5,660	3 30	10.4	868	5,697	200	236	.....	.....	158	7,159
377	Raleigh	Kent	4,323	71,283	2,497,935	33,914	7 85	13.6	2,955	32,448	.....	133	.....	11,444	1,978	48,958
378	Rama	Ontario	1,279	33,179	150,005	3,275	2 56	21.8	426	3,011	.....	120	800	.....	420	4,777
379	Ramsay	Lanark	2,151	61,158	680,705	8,553	3 98	12.6	1,814	9,362	.....	356	.....	.....	140	11,672
380	Ratter and Dunnet	Nipissing	735	24,961	49,449	1,571	2 14	31.8	172	1,508	.....	.....	.....	200	284	2,164
381	Rawdon	Hastings	3,320	65,390	1,181,955	13,047	3 93	11.0	62	12,784	.....	42	128	.....	455	13,471
382	Rayside	Algoma	743	19,134	58,834	1,783	2 40	30.3	5	1,401	.....	.....	430	.....	.....	1,836
383	Reach	Ontario	3,994	63,556	1,967,620	12,765	3 20	6.5	132	12,957	.....	.....	6,265	.....	182	19,536
384	Richmond	Lennox & Addington	2,229	49,864	855,655	10,384	4 66	12.1	.....	8,720	3,109	486	1,340	.....	50	13,705
385	Rochester	Essex	2,541	32,307	628,820	9,681	3 81	15.4	2,370	9,466	.....	.....	.....	1,784	220	13,840
386	Rolph, Buchanan and Wylie	Renfrew	1,018	41,413	57,932	2,039	2 00	35 2	193	1,758	.....	.....	.....	.....	86	2,037
387	Romney	Kent	1,780	26,365	751,245	15,083	8 47	20.1	6,806	12,228	.....	140	.....	6,717	1,591	27,482
388	Ross	Renfrew	2,817	52,046	632,510	5,960	2 12	9.4	617	5,620	.....	.....	.....	.....	425	6,662
389	Roxborough	Stormont	4,169	70,707	766,025	14,831	3 56	19.4	235	12,407	3,493	44	2,752	22,066	572	41,569
390	Russell	Russell	2,892	47,200	645,970	10,112	3 49	15.7	.....	8,425	.....	.....	.....	10,000	249	18,674
391	Ryde	Muskoka	520	22,437	47,060	1,196	2 30	25 4	81	1,202	.....	.....	.....	300	18	1,601
392	Ryerson	Parry Sound	638	40,553	128,740	2,115	3 32	16.4	743	1,645	.....	.....	.....	350	16	2,754
393	St. Joseph	Algoma	917	27,997	103,729	2,503	2 73	24.1	169	3,083	.....	.....	.....	.....	22	3,274
394	St. Vincent	Grey	2,881	63,109	1,391,545	11,717	4 07	8.4	3,410	10,994	.....	.....	800	.....	210	15,414
395	Salter, May and 116	Algoma	787	36,313	103,753	2,795	3 55	26.9	356	2,192	.....	.....	350	.....	206	3,104
396	Saltfleet	Wentworth	2,917	28,407	1,761,754	13,859	4 75	7.9	3,111	10,304	.....	336	.....	2,000	399	16,150
397	Sandfield	Manitoulin	174	12,440	31,581	738	4 24	23.4	209	966	.....	.....	64	.....	.....	1,239
398	Sandwich E.	Essex	2,690	18,663	590,710	13,504	5 02	22.9	518	10,994	.....	167	4,000	5,069	1,213	21,961
399	Sandwich S	Essex	1,656	23,548	588,525	11,353	6 86	19.3	601	10,124	.....	.....	1,000	6,164	91	17,980

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Disbursements, 1898.													Assets on December 31, 1898.				Liabilities on December 31, 1898.				
	Allowances, salaries and commissions.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of schools and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
366	599	244	1,414	.....	5,124	4,538	..	.....	.....	500	15	10	12,444	5,238	2,788	.....	2,000	10,026	5,259	.....	.....	110	5,369
367	704	163	888	49	1,191	5,118	22	.....	702	.....	219	63	9,119	921	7,219	.....	2,681	10,821	4,294	3,389	.....	581	8,264
368	853	180	1,212	29	1,188	4,506	129	.....	246	300	66	435	9,144	170	3,991	.....	1,000	5,161	3,456	246	625	902	5,229
369	187	38	254	132	.....	900	.....	.....	.....	200	8	135	1,854	197	703	.....	250	1,150	572	.....	.....	171	743
370	988	456	3,845	315	4,120	8,490	4,488	.....	3,840	3,252	1,058	780	31,632	1,681	2,489	.....	17,672	21,842	1,551	16,601	.....	260	18,415
371	479	299	867	232	3,683	3,351	.....	500	.....	88	.....	36	9,535	.....	4,424	5,250	500	10,174	3,710	.....	522	.....	4,232
372	82	30	5	.....	.....	208	.....	.....	.....	200	11	3	539	3	977	.....	.....	980	.....	.....	200	79	279
373	639	252	1,484	63	1,697	4,320	179	205	303	500	265	136	10,043	2,064	2,144	1,175	.....	5,383	681	6,271	181	1,070	8,203
374	805	133	1,860	79	3,180	5,270	.....	321	.....	.....	.....	206	11,794	1,047	3,223	10,157	3,000	17,427	1,302	.....	.....	95	1,397
375	279	108	139	.....	201	1,314	.....	.....	.....	.....	.....	194	2,235	57	2,307	.....	.....	2,364	1,764	.....	.....	670	2,434
376	338	91	218	170	1,991	2,977	.....	165	.....	.....	.....	108	6,058	1,101	.....	4,640	400	6,141	.....	.....	.....	.....	.....
377	1,278	2,464	2,042	543	4,314	7,236	14,793	.....	7,685	.....	4,736	2,840	47,931	1,027	17,906	.....	91,852	110,785	60	104,188	.....	9,289	113,537
378	413	152	1,158	120	195	1,330	.....	370	....	500	309	18	4,565	212	2,240	4,067	705	7,224	728	4,700	824	.....	6,252
379	591	261	1,250	75	1,538	4,862	.....	.....	.....	.....	.....	131	8,708	2,964	22	7,660	600	11,246	395	.....	.....	.....	395
380	226	123	186	.....	.....	1,112	.....	.....	.....	.....	84	59	1,790	374	648	.....	90	1,112	145	200	.....	35	380
381	635	267	613	398	4,204	5,760	.....	.....	179	1,100	258	57	13,471	.....	5,924	.....	1,225	7,149	4,295	1,771	133	50	6,249
382	281	131	369	.....	.....	760	105	.....	.....	130	30	9	1,815	21	1,146	.....	350	1,517	925	.....	300	167	1,392
383	912	162	1,652	778	5,091	6,481	.....	.....	.....	4,000	145	173	19,394	142	2,888	.....	1,744	4,774	.....	.....	2,265	300	2,565
384	561	149	1,426	359	2,845	4,386	.....	2,870	.....	1,003	.....	106	13,705	.....	6,249	17,621	2,537	26,407	2,851	.....	3,340	2	6,193
385	675	1,284	1,751	43	1,000	3,595	2,901	.....	752	.....	130	913	13,044	796	11,554	.....	1,400	13,750	4,302	7,625	.....	1,939	13,866
386	201	52	9	.....	230	1,295	....	7	80	.....	8	40	1,922	115	2,064	7	100	2,286	1,543	80	.....	256	1,879
387	965	241	2,120	46	1,039	13,579	.....	.....	3,715	.....	2,188	548	24,441	3,041	11,116	.....	8,525	22,682	3,013	50,350	.....	8,282	61,645
388	324	172	536	.....	800	3,535	.....	.....	100	.....	42	287	5,796	866	276	.....	1,200	2,342	414	600	.....	.....	1,014
389	482	480	1,391	101	1,695	5,737	19,879	1,895	1,004	2,702	518	5,231	41,118	451	9,559	1,895	700	12,605	1,775	32,570	.....	2,955	37,300
390	371	422	1,448	150	1,140	3,140	180	331	396	166	545	10,130	18,422	252	8,609	334	1,500	10,695	4,865	12,059	530	.....	17,454
391	217	65	108	34	.....	934	.....	.....	.....	.....	.....	43	1,402	199	809	.....	60	1,068	703	300	.....	151	1,154
392	254	66	102	7	.....	1,817	.....	.....	102	....	31	51	2,430	324	2,317	.....	.....	2,641	1,245	706	....	85	2,036
393	319	79	326	97	..	1,953	....	....	51	.....	37	303	3,165	109	1,670	.....	120	1,899	465	473	.....	11	949
394	846	205	1,527	512	2,549	5,047	.....	....	209	800	27	67	11,789	3,625	318	.....	249	4,192	2,420	....	....	269	2,689
395	314	182	293	100	....	1,414	.....	80	.....	400	108	19	2,910	194	2,898	378	805	4,275		2,100	150	.....	2,250
396	852	764	3,368	332	1,575	6,448	242	6	.....	86	.....	414	14,087	2,063	1,452	6,092	285	9,892	2,411	2,000	.....	.....	4,411
397	123	40	6	5	.....	1,065	.....	.....	.....	.....	.....	.....	1,239	.....	795	.....	.....	795	200	.....	64	8	272
398	824	641	1,846	208	1,232	4,143	5,312	.....	3,569	2,500	803	349	21,427	531	13,398	.....	12,647	26,579	5,433	15,465	4,000	1,487	26,385
399	790	546	1,070	54	808	3,436	3,266	.....	2,687	3,200	738	1,291	17,886	94	10,764	....	9,763	20,621	2,830	14,067	1,000	2,347	20,244

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Township Municipalities.	County in which located.	Population, 1899.	No. of acres assessed, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$ c.		$	$	$	$	$	$	$	$
400	Sandwich W	Essex	2,590	23,277	682,381	12,271	4 74	18.0	976	10,291	.....	.....	.....	7,794	406	19,467
401	Sarawak	Grey	1,102	10,835	246,936	4,588	4 16	18.6	659	4,764	27	18	151	....	40	5,659
402	Sarnia	Lambton	2,082	38,350	774,006	14,473	6 95	18.7	24	14,325	.....	25	....	4,117	1,359	19,850
403	Saugeen	Bruce	1,444	36,062	840,595	5,076	3 52	6 0	739	4,919	.....	.....	200	.....	114	5,972
404	Sault Ste. Marie	Algoma	712	53,857	267,672	5,210	7 32	19.5	363	4,479	.....	.....	500	..	1,280	6,622
405	Scarborough	York	3,708	42,906	2,091,465	16,250	4 38	7.8	1,458	15,277	1,388	611	1,511	4,000	800	25,045
406	Scott	Ontario	2,217	49,199	1,020,080	8,448	3 81	8.3	.....	7,684	.....	250	1,632	.....	191	9,757
407	Scugog	Ontario	497	9,244	287,285	1,675	3 37	5.8	196	1,894	.....	. ....	.....	.....	1	2,091
408	Sebastopol	Renfrew	732	29,717	56,485	917	1 25	16.2	96	959	.....	.....	.....	.....	24	1,079
409	Seneca	Haldimand	1,886	41,750	885,855	8,192	4 34	9.2	681	8,070	.....	.....	.....	.....	162	8,913
410	Seymour	Northumberland	2,866	67,222	1,119,203	13,131	4 58	11 7	2,329	13,119	... .	.....	4,085	.....	790	20,323
411	Sheffield	Lennox & Addington	2,059	70,222	676,045	8,069	3 92	11.9	333	8,137	425	314	300	.....	187	9,696
412	Sherbourne, McClintock, etc	Haliburton	263	10,051	18,252	657	2 50	36.0	.....	200	.....	.....	164	.....	1,258	1,622
413	Sherbrooke	Haldimand	382	4,368	152,259	1,323	3 46	8.7	86	1,206	81	96	.....	.....	4	1,473
414	Sherbrooke S	Lanark	864	36,103	92,864	1,543	1 79	16.6	107	1,666	.....	. .	.....	.....	60	1,832
415	Shuniah	Thunder Bay	134	94,857	151,204	2,752	20 53	18.2	372	1,403	.....	.....	317	.....	.....	2,092
416	Sidney	Hastings	4,035	69,611	2,061,895	18,215	4 51	.....	5,934	17,391	.....	25	1,468	.....	776	25,594
417	Smith	Peterborough	2,632	57,700	1,444,480	11,054	4 20	7.7	3,970	9,726	.....	23	.....	.....	123	13,842
418	Snowdon	Haliburton	709	34,594	68,110	3,266	4 61	48.0	159	2,322	.....	....	.....	. .	33	2,514
419	Sombra	Lambton	3,762	71,811	1,022,690	22,000	5 85	21.5	1,553	21,753	.....	98	.....	1,870	640	25,914
420	Somerville	Victoria	1,859	63,526	202,030	5,521	2 97	27.3	400	5,939	1,000	194	...	...	125	7,658
421	Sophiasburg	Prince Edward	1,870	42,371	1,007,379	7,129	3 81	7.1	141	7,851	.....	101	500	.....	59	8 652
422	Southwold	Elgin	3,769	72,407	2,495,082	22,826	6 06	9 1	7,777	21,408	.....	73	2,000	1,500	290	33,048
423	Springer	Nipissing	852	30,524	76,349	2,257	2 65	29 6	301	855	.....	.....	500	.....	353	2,009
424	Stafford	Renfrew	1,091	21,319	75,565	2,286	2 09	30.3	423	2,450	.....	. ....	.....	.....	28	2,901
425	Stamford	Welland	1,933	21,555	839,456	10,155	5 25	12.1	598	9,066	.....	9	200	. ..	410	10,283
426	Stanhope	Haliburton	467	16,503	23,780	1,266	2 71	53.2	395	1,567	.....	7	100	.....	97	2,166
427	Stanley	Huron	2,222	43,318	1,663,215	9,710	4 37	5.8	69	9,857	530	7	500	.....	123	11,086
428	Stephen	Huron	4,141	56,758	1,802,502	13,835	3 34	7.7	2,281	11,250	.....	.....	2,100	3,000	410	19,041
429	Stephenson	Muskoka	1,173	43,595	131,644	2,901	2 47	21.5	61	2,740	.....	30	466	200	131	3,631
430	Stisted	Muskoka	581	40,970	104,739	1,905	3 28	18.2	49	1,864	.... .	.....	190	210	96	2,409
431	Storrington	Frontenac	1,889	56,169	418,615	8,270	4 38	19.8	193	10,355	.....	. ..	.....	.....	142	10,690
432	Strong	Parry Sound	822	39,360	131,200	1,808	2 20	13.8	169	1,541	.....	.....	25	.....	11	1,746
433	Sullivan	Grey	3,588	74,779	1,163,820	10,704	2 98	9.2	755	10,161	.....	.....	300	.... .	543	11,759

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Disbursements, 1893.													Assets on December 31, 1898.					Liabilities on December 31, 1899.				
	Allowances, salaries and commissions.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of schools and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates d u'e and unpaid.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
400	662	191	2,332	70	872	4,910	7,794	.....	1,465	.....	233	934	19,463	4	12,545	.....	1,000	13,549	6,322	8,122	.....	.....	14,444
401	431	132	1,010	41	385	1,543	35	575	128	150	347	97	4,874	785	711	1,532	78	3,106	.....	7,500	240	68	7,808
402	879	272	1,534	264	1,150	3,289	3,608	.....	5,101	1,000	1,729	674	19,500	350	2,634	.....	22,167	25,151	....	32,906	.....	2,070	34,976
403	517	87	806	84	1,115	2,046	9	.....	220	200	54	62	5,200	772	17	.....	54	843	.....	730	.....	14	744
404	777	390	1,815	86	.....	2,224	.....	.....	.....	.....	24	224	5,540	1,082	8,200	.....	4,432	13,714	2,694	.....	500	492	3,686
405	1,141	377	4,223	63	4,023	10,321	.....	1,388	70	1,500	182	435	23,723	1,322	1,773	13,165	910	17,170	.....	5,739	11	.....	5,750
406	645	189	1,250	297	1,466	3,567	.....	.....	.....	2,044	127	172	9,757	.....	12	4,761	740	5,513	.....	785	232	.....	1,017
407	191	37	177	.....	455	908	76	.....	.....	.....	.....	92	1,936	155	76	.....	1,549	1,780	61	.....	.....	140	201
408	139	48	46	8	158	598	.....	....	.....	....	.....	.....	997	82	869	.....	27	978	739	.....	.....	....	739
409	503	147	657	322	2,446	3,492	.....	.....	.....	.....	.....	83	7,650	1,263	.....	.....	1,300	2,563	.....	..	.....	.....	.....
410	699	368	4,103	380	1,771	4,263	.....	.....	4,693	1,650	457	713	19,097	1,226	674	.....	250	2,150	.....	.....	2,435	1,980	4,415
411	497	192	674	149	1,033	4,254	.....	1,188	.. ..	550	1,008	42	9,587	109	4,571	8,112	3,107	15,899	2,313	15,000	2,369	505	20,187
412	155	227	118	....	.. ..	184	.....	655	.....	164	1	1	1,505	117	406	655	586	1,764	213	.....	.....	25	238
413	112	54	23	46	334	780	.....	100	.....	.....	.....	.....	1,449	24	452	1,913	600	2,989	....	.....	.....	.....	.....
414	242	88	112	2	186	1,139	...	.....	.....	.....	.....	43	1,812	21	524	.....	.....	545	223	....	.....	92	315
415	627	85	297	....	.....	.....	.....	317	.....	.....	378	151	1,855	237	8,239	1,466	5,300	15,242	.....	7,500	1,466	727	9,693
416	751	266	932	705	9,499	12,290	....	.....	143	800	142	66	25,594	.....	11,063	... ..	1,000	12,063	8,516	1,105	668	.....	10,289
417	545	184	1,810	453	3,407	3,895	....	....	....	.....	...	29	10,323	3,519	3,212	.....	....	6,731	3,443	....	.....	38	3,481
418	246	116	197	48	101	1,095	.....	.....	135	.....	38	479	2,455	59	2,975	.....	238	3,272	3,107	560	.....	47	3,714
419	1,040	342	2,364	324	1,539	5,490	1,997	35	7,645	.....	2,345	207	23,328	2,586	23,967	249	33,524	60,326	7,291	46,181	...	199	53,671
420	468	141	775	199	565	2,669	.....	2,164	.....	.....	500	49	7,530	128	4,623	4,529	420	9,700	2,497	10,000	.....	245	12,742
421	494	97	304	105	2,544	4,053	.....	.....	.....	.....	500	18	373	8,488	161	429	3,416	4,300	8,309	.. ..	.....	.....	196	196
422	1,463	362	4,975	26	6,017	8,788	812	.....	1,712	2,000	424	248	26,827	6,221	3,766	.....	2,841	12,828	5,919	6,841	.. ..	318	13,078
423	242	143	186	3	.....	639	.....	.....	368	.....	265	81	1,927	82	4,703	.....	2,229	7,014	597	4,880	512	738	6,727
424	182	111	157	....	516	1,334	.....	....	.....	.....	.....	8	2,308	593	532	.....	.....	1,125	569	.....	.....	90	659
425	446	811	639	19	2,028	5,120	.....	....	309	200	335	149	10,056	227	3,609	.....	10,348	14,184	1,205	6,354	.....	1,574	9,133
426	217	68	116	... .	180	914	.....	.....	20	100	16	530	2,161	5	1,323	.....	158	1,486	852	145	.....	30	1,027
427	620	67	2,239	12	2,017	4,215	.....	1,000	.....	500	12	54	10,736	350	204	1,000	1,200	2,754	..	....	....	.....	.....
428	807	154	2,898	44	.....	8,887	.....	.....	2,146	2,100	591	275	17,902	1,139	2,412		2,083	5,634	2,239	9,026	.....	....	11,265
429	325	184	506	74	.....	1,601	.....	423	.....	350	119	49	3,631	.....	1,869	1,174	1,100	4,143	832	2,310	935	153	4,260
430	230	39	382	29		960	.....	60	..	190	30	73	1,993	416	1,099	300	265	2,080	.....	810	.....	.. ..	810
431	385	156	371	93	6,096	3,087	.....	.....	.....	.....	10	340	10,538	152	997	.....	1,000	2,149	325	.....	.....	.....	325
432	214	70	60	10	.....	1,119	.....	.....	.....	.....	.....	100	1,573	173	1,915	.....	25	2,113	1,108	....	25	.....	1,133
433	512	238	1,930	153	2,069	5,910	68	.....	150	300	63	135	11,528	231	73	.. ...	1,500	1,804	.....	900	.....	.....	900

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Township Municipalities.	County in which located.	Population, 1899.	No. of acres assessed, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal school taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$ c.		$	$	$	$	$	$	$	$
434	Sunnidale	Simcoe	2,205	54,944	835,244	8,181	3 71	9.8	3,709	8,482	.....	.....	2,000	.....	141	14,332
435	Sydenham	Grey	3,445	73,220	1,152,500	12,025	3 49	10.4	308	11,405	.....	.....	6	.....	310	12,029
436	Tay	Simcoe	4,210	46,747	526,194	10,742	2 55	20.4	1,318	9,467	.....	91	.....	.....	126	11,002
437	Tecumseth	Simcoe	3,405	65,920	1,683,460	18,246	5 36	10.8	980	15,957	.....	.....	1,200	....	2,191	20,328
438	Tehkummah	Manitoulin	444	16,908	51,800	1,084	2 44	20.9	6	978	.....	.....	.....	.....	...	984
439	Thessalon	Algoma	528	17,533	55,690	1,299	2 46	23.3	96	1,505	.....	.....	.....	.....	.....	1,601
440	Thorah	Ontario	1,355	32,082	533,658	4,901	3 62	9.2	.....	4,715	311	1,520	388	.....	59	6,993
441	Thorold	Welland	1,762	22,878	672,091	6,898	3 91	10.3	479	6,349	.....	.....	600	.....	70	7,498
442	Thurlow	Hastings	4,685	53,445	1,915,500	17,635	3 76	9.2	240	18,258	.....	88	.....	.....	815	19,401
443	Tilbury E	Kent	3,293	54,351	1,490,550	28,764	8 73	19.3	165	26,079	475	138	10,050	18,365	863	56,135
444	Tilbury N	Essex	2,452	26,759	651,215	11,927	4 86	18.3	18,139	8,947	575	157	.....	6,246	5,767	39,831
445	Tilbury W	Essex	2,235	22,479	633,900	14,251	6 38	22.5	3,772	12,651	.....	150	.....	1,435	26,805	44,813
446	Tiny	Simcoe	3,894	78,298	738,692	12,953	3 33	17.5	.....	13,433	.....	.....	1,000	.....	649	15,082
447	Torbolton	Carleton	782	24,925	145,450	3,113	3 98	21.4	.....	2,942	.....	.....	342	.....	.....	3,284
448	Toronto	Peel	5,024	65,196	2,722,644	20,436	4 07	7.5	2,747	21,053	2,648	1,081	2,000	.....	761	30,290
449	Toronto Gore	Peel	1,014	19,001	755,319	5,653	5 57	7.5	471	5,274	.....	165	.....	.....	180	6,090
450	Tossorontio	Simcoe	1,798	44,661	738,160	7,439	4 14	10.1	1,536	6,553	.....	.....	.....	.....	287	8,376
451	Townsend	Norfolk	3,955	64,982	2,366,850	17,995	4 55	7.6	.....	15,743	.....	.....	4,483	.....	114	20,340
452	Trafalgar	Halton	3,545	66,926	2,467,980	15,528	4 38	6.3	5	13,512	4,068	1,827	5,900	.....	139	25,451
453	Tuckersmith	Huron	2,443	40,598	1,954,055	10,355	4 24	5.3	716	10,644	900	973	.....	3,513	216	16,862
454	Tudor and Cashel	Hastings	876	60,313	66,691	2,482	2 83	37.2	390	2,610	.....	.....	.....	.....	318	3,318
455	Turnberry	Huron	2,248	35,523	1,034,595	7,205	3 21	7.0	1,628	6,584	.....	4	800	.....	184	9,200
456	Tyendinaga	Hastings	3,899	77,222	1,422,420	16,127	4 14	11.3	842	14,785	.....	10	.....	.....	736	16,373
457	Usborne	Huron	2,387	42,677	1,803,900	10,225	4 28	5.7	3,801	10,325	.....	.....	100	.....	107	14,333
458	Uxbridge	Ontario	2,699	51,876	993,827	10,813	4 01	10.9	598	10,488	.....	167	900	.....	265	12,418
459	Van Horne	Rainy River	281	7,540	35,607	858	3 05	24.1	.....	.....	.....	.....	.....	.....	.....	.....
460	Vaughan	York	4,500	67,026	2,914,355	22,118	4 92	7.6	12,985	19,904	4,532	1,719	.....	.....	1,051	40,191
461	Verulam	Victoria	1,815	55,612	523,140	7,955	4 38	15.2	667	11,613	.....	36	200	.....	5	12,521
462	Vespra	Simcoe	2,975	62,060	492,053	9,984	3 36	20.3	475	9,430	.....	.....	92	.....	187	10,184
463	Wainfleet	Welland	2,719	51,000	927,500	11,030	4 06	11.9	492	11,194	.....	1,500	500	2,142	104	15,932
464	Wallace	Perth	2,839	49,955	1,955,311	12,357	4 35	6.3	111	12,741	2,422	115	.....	.....	383	15,772
465	Walpole	Haldimand	4,442	66,359	1,946,705	19,581	4 41	10.1	1,389	19,086	.....	17	2,471	....	153	23,116
466	Walsingham N	Norfolk	2,198	40,238	565,380	8,165	3 71	14.4	131	6,143	.....	.....	300	.....	214	6,788
467	Walsingham S	Norfolk	1,788	53,484	679,225	9,830	5 50	14.5	.....	11,814	.....	.....	.....	.....	460	12,274

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Disbursements, 1898.													Assets on December 31, 1898.					Liabilities on December 31, 1898.				
	Allowances, salaries and commissions.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of schools and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
434	732	257	845	265	2,799	3,415	1,757	.. ..	109	2,000	189	70	12,438	1,894	1,055	.....	2,036	4,985	2,314	2,686	.....	450	5,450
435	892	223	2,167	269	2,096	5,536	.....	.....	161	460	119	106	12,029	.....	.....	.....	500	500	.....	897	6	.....	903
436	789	345	1,672	275	1,015	5,540	.....	.....	.....	.....	.....	202	9,838	1,164	9,352	.....	75	10,591	3,836	.....	.....	300	4,136
437	717	304	1,919	323	4,864	6,452	.....	.....	.....	1,200	43	752	16,574	3,754	27	.....	13	3,794	.....	.....	.....	.....	.....
438	113	52	57	.....	.....	627	.....	.....	.....	.....	.....	8	857	127	724	.....	.....	851	107	.....	.....	61	168
439	217	67	256	7	.....	484	.....	.....	.....	.....	.....	.....	1,031	570	.....	.....	200	770	.....	.....	.....	.....	.....
440	645	261	1,362	10	691	1,780	239	23	1,000	18	636	328	6,993	.....	551	52,870	2,216	55,637	.....	10,000	388	8,109	18,497
441	532	195	353	11	1,698	3,513	.....	... ..	.....	600	18	119	7,039	459	3,645	...		4,104	3,645	.....	.....	84	3,729
442	693	384	1,602	1,214	6,586	6,315	.....	.....	757	.....	46	38	17,635	1,766	6,682	.....	2,023	10,471	5,477	.....	.....	90	5,567
443	864	603	4,370	535	2,113	7,534	13,220	475	8,493	9,915	4,799	1,496	54,417	1,718	28,895	.....	7,679	38,292	5,874	114,433	10,050	19,125	149,482
444	751	390	3,675	210	960	3,469	9,655	.....	2,200	.....	1,638	16,631	39,579	252	8,482	122	3,930	12,786	4,182	26,727	... ..	2,650	33,559
445	619	457	1,073	251	941	3,034	22,143	.....	6,251	.....	2,102	5,227	42,128	2,685	12,367	.....	13,017	28,069	940	44,722	....	4,093	49,755
446	832	289	1,387	158	1,810	4,215	24	.....	805	2,331	2,220	486	14,560	522	8,726	.....	7,355	16,603	1,638	49,594	2,000	... .	53,232
447	301	112	162	6	450	1,698	.....	.....	.....	547	3	5	3,284	....	2,973	.....	.....	2,973	1,626	.....	342	145	2,113
448	1,189	260	3,888	532	4,539	8,522	.....	2,493	943	3,500	449	927	27,242	3,048	2,482	28,202	1,800	35,532	.....	4,957	3,000	.....	7,957
449	448	57	1,372	42	1,333	1,918	.....	36	460	.....	86	43	5,795	295	2	3,536	994	4,827	... .	977	...	31	1,008
450	538	192	1,044	89	1,498	3,174	....	....	....	...	88	34	6,657	1,719	119	.....	2	1,840	349	.....	1,688	....	2,037
451	1,021	1,435	3,886	26	5,687	6,195	75	....	86	1,604	131	194	20,340	....	3,117	....	1,888	5,005	1,183	1,132	2,983	.....	5,298
452	1,012	259	6,006	370	1,631	7,291	.....	4,068	200	3,550	75	789	25,251	200	3,805	45,173	1,606	53,784	2,144	200	2,350	121	4,815
453	640	292	1,887	... ..	2,116	4,999	3,610	900	86	.....	29	156	14,715	2,147	58	17,684	... .	19,889	.....	3,427	.....	....	3,427
454	389	97	393	10	199	1,659	.....	.....	.....	.....	.....	12	2,759	559	2,234	.....	.....	2,793	1,590	.....	.....	20	1,610
455	638	156	589	30	1,667	3,243	60	.....	200	1,035	27	57	7,702	1,498	.....	.....	220	1,718	1,223	.....	.....	.....	1,223
456	1,156	191	1,353	416	6,015	6,562	.....	.....	.....	.....	....	179	15,872	501	2,532	.....	966	3,999	677	.....	.....	591	1,268
457	663	110	2,576	30	3,021	4,888	.....	.....	.....	100	1	67	11,456	2,877	31	.....	425	3,336	2,216	.....	.....	.....	2,216
458	902	558	1,463	273	1,048	4,015	.....	1,027	200	900	1,221	246	11,853	565	989	4,599	1,050	7,203	.....	20,000	.....	.....	20,000
459	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
460	1,382	546	6,289	79	5,806	8,068	.....	4,532	.....	.....	.....	486	27,188	13,003	582	35,332	1,471	50,388	6,173	.....	.....	3,076	9,249
461	569	338	2,032	144	1,723	3,957	....	184	.....	200	95	141	9,383	3,138	331	758	563	4,790	2,080	1,850	.....	5	3,935
462	882	220	1,957	129	991	4,467	246	.....	295	500	98	200	9,985	199	2,356	.....	1,246	3,801	1,725	1,207	92	200	3,224
463	612	441	652	31	5,832	4,320	1,546	.....	1,422	.....	350	316	15,522	410	3,378	25,000	8,445	37,233	505	7,143	500	.....	8,148
464	673	311	1,439	48	4,321	4,428	137	3,175	.....	... ..	918	291	15,741	31	3,365	4,250	865	8,511	2,560	20,000	1,075	59	23,694
465	856	345	3,501	645	5,149	8,269	.....	.....	500	2,471	214	516	22,466	650	61	.....	700	1,411	.....	3,200	.....	.....	3,200
466	497	341	1,727	....	701	2,620	.....	.....	100	300	19	339	6,644	144	4,664	.....	1,105	5,913	2,647	100	.....	100	2,847
467	608	248	2,211	39	1,823	3,404	.....	.....	1,971	107	1,239	165	11,815	459	1,208	.....	4,238	5,905	1,462	22,809	.....	.....	24,271

TOWNSHIP MUNICIPALITIES.—*Continued.*

No.	Township Municipalities.	County in which located.	Population, 1899.	No. of acres assessed, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.							
						Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Refunds from Sinking Funds and other investments.	Interest and dividends.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.
					$	$	$ c.	$	$	$	$	$	$	$	$	$
468	Warwick	Lambton	3,204	69,964	2,037,930	15,810	4 93	7 8	....	15,413	.....	.....	2,660	800	38	18,851
469	Waterloo	Waterloo	7,044	82,340	3 635,875	28,195	4 00	7.8	683	26,380	6.042	1,823	7,206	9,000	626	51,760
470	Watt	Muskoka	914	34,851	124,309	2,319	2 54	18.7	482	2,327	380	.....	294	.....	38	3,521
471	Wawanosh E.	Huron	1,928	41,734	1,069,900	6,733	3 49	6.3	2,056	6,264	.....	8	900	.....	130	9,358
472	Wawanosh W.	Huron	2,091	41,705	1,116,875	7,343	3 51	6.6	215	7,664	.....	.....	300	.....	175	8 354
473	Wellesley	Waterloo	4,953	66,602	2,147,885	21,196	4 28	9 9	19	20,188	825	598	825	4,400	592	27,447
474	Westmeath	Renfrew	3,453	65,555	294,962	8,443	2 45	28.6	....	9,264	.....	.....	.....	.....	308	9,572
475	Westminster	Middlesex	4,043	62,392	2,991,980	20,018	4 95	6.7	15,581	20,490	.....	135	.....	.....	562	36,768
476	Whitby E.	Ontario	2,689	31,175	1,653,255	9,417	3 50	5.7	421	9,043	.....	160	1,150	.....	170	10,944
477	Whitby	Ontario	2,105	30,670	1,520,825	10,231	4 86	6.7	563	10,047	36	.....	1,200	.....	302	12,148
478	Whitchurch	York	3,757	60,241	1,608,725	11,986	3 19	7.5	1,116	12,137	4,562	844	1,000	1,600	47	21,306
479	Widdifield	Nipissing	618	47,120	70,875	1,379	2 23	19.5	.....	1,076	.....	.....	.....	.....	33	1,109
480	Wilberforce and Algona N.	Renfrew	2,187	68,090	135,440	3,785	1 73	27.9	603	3,797	.....	.....	.....	...	39	4,439
481	Williams E	Middlesex	1,511	38,595	1,230,375	9,506	6 29	7 7	512	9,980	.....	.....	.....	.....	256	10,748
482	Williams W.	Middlesex	1,547	35,189	602,190	9,274	5 99	15.4	....	9,289	.....	.....	2,125	.....	76	11,490
483	Williamsburg	Dundas	3,707	59,727	1,461,467	16,135	4 35	11.0	.....	12,068	.....	.....	1,200	2,584	160	16,012
484	Willoughby	Welland	962	18,812	427,844	3,967	4 12	9.3	8	3,955	.....	.....	300	.....	79	4,342
485	Wilmot	Waterloo	5,334	60,756	2,597,845	19,549	3 66	7.5	2,042	19,352	.....	.....	1,070	.....	572	23,036
486	Winchester	Dundas	3,394	57,048	1,344,760	20,110	5 93	15.0	.....	20,180	6,888	.....	2,454	4,000	261	33,783
487	Windham	Norfolk	3,882	66,719	1,568,467	13,399	3 45	8.5	427	13,255	.....	.....	.....	.....	99	13,781
488	Wolfe Island	Frontenac	1,554	30,978	596,258	7,933	5 10	13 3	66	7,539	.....	.....	.....	.....	55	7,660
489	Wolford	Grenville	1,753	46,313	932,464	6,267	3 58	6.7	62	4,898	.....	.....	450	....	38	5,448
490	Wollaston	Hastings	739	49,046	62,217	1,992	2 70	32 0	92	2,151	.....	.....	.....	.....	239	2,482
491	Woodhouse	Norfolk	2,000	34,600	1,112,899	9,458	4 73	8.5	2,359	9,288	.....	34	500	....	95	12,276
492	Woolwich	Waterloo	4,499	53,435	2,626,065	21,353	4 75	8.1	3,318	17,660	964	496	.....	.....	325	22,763
493	Yarmouth	Elgin	4,917	69,881	2,676,832	27,599	5 61	10 3	819	27,587	.....	14	4,934	.....	452	33,806
494	Yonge and Escott, Front	Leeds	2,484	55,671	722,874	11,955	4 81	16.5	22	11,329	.....	93	1,750	.....	58	13,252
495	Yonge and Escott, Rear	Leeds	1,174	27,778	400,585	6,065	5 11	15.0	515	6,062	.....	377	.....	.....	563	7,517
496	York	York	8,203	58,000	5,752,259	84,202	10 26	14.6	247	77,665	1,540	1,258	6,729	.....	2,423	89,862
497	Zone	Kent	1,205	25,184	555,900	5,862	4 86	10.5	370	5,586	125	5	1,052	1,604	75	8,817
498	Zorra E.	Oxford	3,990	57,527	2 718,685	21,507	5 39	7.9	7,896	21,173	.....	130	2,000	2,800	780	34,779
499	Zorra W	Oxford	2,618	55,013	2,568,325	15,376	5 87	6.0	3,016	19,533	1,518	726	5,432	.....	864	31,089

The above assessed values include properties exempt from municipal taxes but subject to school taxes.

TOWNSHIP MUNICIPALITIES.—*Concluded.*

No.	Disbursements, 1898.													Assets on December 31, 1898.					Liabilities on December 31, 1898.				
	Allowances, salaries and commissions.	Other expenses of municipal government.	Roads and bridges.	Charities.	County levy.	Payment on account of schools and education.	Drainage work.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
468	557	174	3,246	263	2,684	5,541	2,024	.....	1,333	1,885	333	235	18,275	576	3,546	.....	500	4,622	1,560	6,564	1,143	....	9,267
469	1,490	450	13,223	205	5,415	14,446	75	5,559	2,403	6,044	797	1,653	51,760	.....	.....	36,899	1,225	38,124	.....	24,391	1,161	.....	25,552
470	280	120	482	3	.....	1,132	.....	452	300	150	84	166	3,169	352	739	466	200	1,757	863	1,100	143	.....	2,106
471	507	133	1,061	111	1,942	3,187	.....	.....	.....	900	18	36	7,895	1,463	435	.....	.....	1,898	1,440	.....	....	.....	1,440
472	543	278	1,469	42	1,975	3,189	.....	...	33	300	19	81	7,929	425	544	.....	1,100	2,069	.....	198	.....	233	431
473	936	307	4,810	6	6,210	13,826	.....	825	.....	...	12	457	27,389	58	239	12,276	744	13,317	.....	4,400	1,501	.....	5,901
474	624	81	2,240	.....	1,781	2,817	.....	.....	726	85	172	704	9,240	332	....	.....	950	1,282	....	2,669	....	....	2,669
475	1,253	312	6,813	22	6,163	6,966	.....	.....	1,081	... ..	183	496	23,289	13,479	2,924	.....	432	16,835	6,536	2,000	.....	.....	8,536
476	806	111	1,523	204	1,783	4,617	.....	.....	....	1,150	22	128	10,344	600	93	3,200	1,500	5,393	40	....	.....	80	120
477	800	257	1,408	308	1,747	3,931	.....	.....	1,253	1,200	410	183	11,497	651	198	64	360	1,263	38	6,469	.....	65	6,572
478	794	174	1,468	23	3,348	6,613	.....	4,654	320	2,593	115	131	20,233	1,073	438	14,397	1,555	17,463	.....	1,280	.....	242	1,522
479	253	53	181	8	.....	586	.....	....	.....	7	.....	5	1,093	16	2,666	.....	350	3,032	670	.....	.....	213	883
480	427	133	322	68	891	1,835	.....	.....	.....	....	.....	272	3,948	491	2,219	.....	181	2,891	1,622	.....	.....	252	1,874
481	580	561	2,427	56	3,257	2,638	79	.....	.....	....	.....	103	9,701	1,047	4,061	.	.....	5,108	3,398	.....	.....	...	3,398
482	618	107	2,822	82	2,307	4,107	83	.....	....	1,000	59	144	11,329	161	5,661	.....	796	6,618	3,115	.....	2,100	473	5,688
483	417	314	1,065	429	2,606	5,998	2,924	.....	474	1,277	240	64	15,808	204	38	.....	2,479	2,721	1,601	3,868	.....	.....	5,469
484	214	104	509	.....	1,389	1,822	.....	.....	.....	.....	.....	69	4,107	235	1,384	.....	1,000	2,619	1,102	. ....	300	350	1,752
485	1,258	363	2,893	9	4,011	9,708	.....	.....	365	1,070	329	361	20,347	2,689	....	.....	1,380	4,069	19	5,122	....	23	5,164
486	597	309	2,918	161	3,052	11,178	5,102	2,449	3,656	2,310	1,336	715	33,783	.....	1,002	5,706	1,863	8,571	....	25,379	754	1,870	28,003
487	720	697	836	70	3,852	6,023	1,062	.....	.....	.....	.....	236	13,496	285	1,578	.....	2,553	4,416	.....	.....	.....	.....	.....
488	363	125	220	56	3,045	3,476	.....	.....	.....	225	11	94	7,615	45	5,854	.....	2,625	8,524	4,852	.....	71	385	5,308
489	552	142	349	3	.....	3,763	.....	.....	.....	125	1	383	5,318	130	.....	.....	750	880	1,423	....	325	.....	1,748
490	309	32	434	13	126	1,358	.....	.....	62	.....	16	41	2,391	91	1,541	.....	1,054	2,686	1,078	59	.....	130	1,267
491	672	84	1,612	85	2,720	3,543	.....	.....	.....	2,400	82	362	11,566	710	193	.....	.....	903	.....	.....	510	.....	510
492	1,094	423	1,899	9	3,613	7,964	.....	925	1,875	...	1,132	140	19,074	3,689	5	8,925	.....	12,619	....	22,030	.....	.....	22,030
493	1,718	910	5,889	120	10,248	7,246	.....	.....	197	4,934	404	1,019	32,685	1,121	2,588	.....	1,566	5,215	413	3,284	.....	434	4,131
494	385	301	2,841	62	1,574	5,043	.....	824	.....	1,350	455	327	13,162	90	646	4,349	2,230	7,315	56	8,788	400	.....	9,244
495	304	125	196	14	741	3,736	.....	872	254	264	816	176	7,498	19	1,495	7,436	3,297	12,247	.....	15,855	.....	40	15,895
496	6,978	5,367	16,934	598	9,170	22,006	.....	3,621	12,577	.....	9,919	2,525	89,695	167	74,917	37,037	62,859	174,980	22,718	132,097	30,406	1,788	187,009
497	572	501	763	92	784	1,391	1,636	125	431	616	54	487	7,452	1,365	4,585	.....	.....	5,950	.....	3,130	2,314	.....	5,444
498	850	140	5,828	57	4,493	9,664	4,637	.....	2,057	2,000	555	308	30,589	4,190	1,067	.....	1,203	6,460	.....	13,871	.....	1,514	15,385
499	654	455	4,637	59	4,217	4,513	340	5,032	1,661	2,000	389	552	24,509	6,580	1,693	14,541	460	23,214	.....	8,030	3,432	.....	11,462

TOWN MUNICIPALITIES.

TABLE II. Showing for the *town* municipalities of Ontario, the population, assessed values and amount of taxes imposed for all purposes, as shown by the assessment and collection rolls for 1899; also a summary statement of the receipts, disbursements, assets and liabilities for the year ending December 31, 1898.

No.	Town Municipalities.	County in which located.	Population, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.									Disbursements, 1898.			
					Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Licenses, fees, rents, fines, etc.	Water, gas and electric light rates.	Refund and interest from S. F. and other investments.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.	Allowances, salaries and commissions.	Lighting of streets, water supply and fire protection.	Other expenses of municipal government.	Administration of justice, including police service.
				$	$	$		$	$	$	$	$	$	$	$	$	$	$	$	$
1	Alliston	Simcoe	1,811	327,143	7,141	3 94	21.8	1,451	8,113	441	215	3,231	.....	.....	725	14,176	390	888	478	21
2	Almonte	Lanark	3,132	815,945	17,137	5 47	21.0	102	17,392	1,716	.....	.....	6,000	4,500	174	29,884	543	2,016	1,130	592
3	Amherstburg	Essex	2,130	465,835	11,612	5 45	24 9	129	10,618	505	3,167	.....	50,018	.....	103	64,540	932	1,681	853	555
4	Arnprior	Renfrew	3,791	699,969	17,631	4 65	25.2	1,565	16,604	2,291	.....	81	4,000	.....	469	25,010	716	1,501	842	530
5	Aurora	York	1,568	417,874	8,448	5 39	20.2	369	8,677	351	696	800	5,934	.....	53	16,880	485	747	314	207
6	Aylmer	Elgin	2,143	703,025	17,254	8 05	24 5	.....	17,421	826	49	7	6,443	2,900	293	27,939	1,177	3,530	670	254
7	Barrie	Simcoe	5,830	1,563,790	39,347	6 75	25.2	.....	39,456	2,943	1,265	79	5,612	106,000	2,924	158,279	1,199	4,493	14,425	1,220
8	Berlin	Waterloo	9,359	3,152,555	59,898	6 40	19.0	.....	57,764	3,297	.....	532	22,990	118,554	3,055	206,192	3,069	11,190	2,438	799
9	Blenheim	Kent	1,682	423,330	9,686	5 76	22.9	.....	12,662	1,018	.....	.....	7,450	.....	12	21,142	613	1,091	895	514
10	Bothwell	Kent	924	215,840	4,271	4 62	19 8	260	3,426	958	.....	.....	1,000	.....	40	5,684	732	196	167	58
11	Bowmanville	Durham	2,792	1,096,840	19,949	7 15	18.2	1,206	21,713	1,043	.....	.....	37,100	3,000	602	64,664	1,112	2,802	748	1,220
12	Bracebridge	Muskoka	2,238	325,805	7,165	3 20	22 0	614	11,271	463	4,548	120	4,200	.....	287	21,503	940	1,748	435	360
13	Brampton	Peel	2,978	1,005,725	24,960	8 38	24.8	....	19,009	590	4,580	708	10,000	5,376	727	40,990	1,116	2,011	1,380	406
14	Brockville	Leeds	8,883	3,422,403	81,735	9 20	23.9	17	80,932	8,623	18,865	29,941	128,122	.....	3,668	276,168	3,480	23,558	3,360	7,535
15	Carleton Place	Lanark	4,126	886,545	19,504	4 73	22.0	5,294	22,854	2,308	.....	122	17,850	1,100	86	49,614	1,380	4,939	870	551
16	Clinton	Huron	2,558	622,577	14,431	5 64	23.2	12,499	11,164	1,121	....	321	.....	31,000	342	56,447	634	2,172	962	439
17	Cobourg	Northumberland	4,231	1,438,260	29,883	7 06	20.8	....	33,437	6,452	....	.....	15,133	1,113	1,411	57,547	1,999	5,035	2,158	1,567
18	Collingwood	Simcoe	5,453	1,247,754	29,454	5 40	23.6	4,789	32,687	3,650	8,802	990	31,950	21,500	2,501	106,869	2,556	8,682	3,068	771
19	Cornwall	Stormont	6,317	1,716,925	40,239	6 37	23.4	.....	38,569	3,894	8,610	4,433	16,748	103,159	1,052	176,465	1,757	6,658	5,206	2,811
20	Deseronto	Hastings	3,620	707,475	20,517	5 67	29.0	.....	18,237	999	807	981	.....	25,000	883	46,907	422	2,205	610	614
21	Dresden	Kent	1,633	406,590	8,207	5 03	20.2	.....	9,635	862	.....	.....	14,528	.....	134	25,159	233	1,050	230	888
22	Dundas	Wentworth	3,387	904,800	21,570	6 37	23.8	.....	20,402	891	1,220	483	3,000	9,000	442	35,438	1,328	1,231	1,139	895
23	Durham	Grey	1,289	308,727	6,173	4 79	20.0	4,573	6,203	610	.....	578	4,144	15,840	2,420	34,368	512	88	223	51
24	Essex	Essex	2,000	381,427	11,442	5 72	30.0	415	10,508	335	1,359	.....	7,004	.....	107	19,728	391	1,785	494	61
25	Forest	Lambton	1,676	333,847	7,989	4 77	23.9	1,331	8,371	561	.....	525	5,425	.....	157	16,370	323	665	344	270
26	Fort William	Thunder Bay	3,527	1,111,609	33,993	9 64	30.6	603	27,426	2,113	1,997	8,968	56,688	21,148	10,876	129,819	1,717	4,619	4,223	1,424
27	Galt	Waterloo	7,638	2,816,845	51,291	6 72	18.2	23	54,146	3,840	7,571	3,707	19,233	19,805	2,362	110,687	4,414	8,773	3,853	899
28	Gananoque	Leeds	3,592	1,104,995	22,589	6 29	20 4	1,049	25,573	1,821	.....	368	19,000	.....	135	47,946	804	2,503	693	1,420
29	Goderich	Huron	4,027	1,216,205	28,737	7 14	23.6	1,022	28,318	860	7,322	1,075	128,700	.....	1,079	168,376	1,990	8,559	639	425
30	Gore Bay	Manitoulin	733	122,010	3,551	4 84	29.1	21	2,595	59	.....	34	600	.....	7	3,316	97	288	113	225
31	Gravenhurst	Muskoka	2,251	321,275	11,345	5 04	35.3	71	11,971	311	.....	67	7,208	4,000	83	23,711	730	2,106	543	400
32	Harriston	Wellington	1,750	429,735	9,436	5 39	22.0	1,150	7,925	764	.....	5,088	6,726	25,940	730	48,323	564	926	234	119

TABLE II. Showing for the *town* municipalities of Ontario, the population, assessed values and amount of taxes imposed for all purposes, as shown by the assessment and collection rolls for 1899; also a summary statement of the receipts, disbursements, assets and liabilities for the year ending December, 31, 1898.

No.	Disbursements, 1898.—*Continued.*											Assets, December 31, 1898.						Liabilities, December 31, 1898.				
	Streets, bridges and parks.	Construction of buildings, water-works, etc.	Charities.	County levy.	Payment on account of schools and education.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Fund and other investments and deposits.	Waterworks, gas and electric light plant.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans for current expenses.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
1	854	6	33	338	1,126	5,175	768	.....	2,447	178	12,697	1,479	1,368	8,135	19,341	11,200	41,523	1,550	53,570	.....	....	55,120
2	2,139	2,690	211	1,383	6,877	.....	2,600	6,000	2,481	405	29,067	817	225	...	.....	63,350	64,392	.....	45,000	.....	329	45,329
3	3,511	3,833	258	487	3,682	....	1,655	42,804	4,043	167	64,461	79	11,322	.....	43,500	16,051	70,952	2,391	61,562	17,193	527	81,673
4	5,969	.....	102	907	4,308	533	949	1,000	1,867	424	19,648	5,362	5,682	32,995	.....	26,859	70,898	7,109	42,210	3,000	5,362	57,681
5	860	274	16	736	2,960	800	1,177	6,344	1,574	84	16,518	362	1,864	200	16,800	10,073	29,299	1,000	24,457	1,590	110	27,157
6	5,415	821	93	722	4,307	.....	3,882	4,687	1,904	477	27,939	. . .	1,309	.....	17,000	14,286	32,595	....	30,350	3,452	.	33,802
7	4,116	84,689	450	2,331	13,221	7,107	10,209	8,953	5,134	732	158,279	.....	10,600	8,769	103,634	48,790	171,793	3,583	193,501	5,612	3,750	206,449
8	18,697	111187	1,299	3,970	17,163	....	9,122	11,109	7,901	8,248	206,192	.....	2,493	5,000	105,960	63,559	177,012	.....	253,008	22,990	....	275,998
9	355	41	63	794	2,748	....	1,625	10,511	1,506	196	20,952	190	4,411	.....	.....	19,802	24,403	634	23,001	3,800	45	27,480
10	69	220	79	.....	1,989	....	300	670	99	206	5,085	599	2,929	.....	.....	13,550	17,078	255	100	1,000	.....	1,355
11	3,239	3,000	1,131	991	7,355	.. ..	1,305	26,900	3,858	751	64,412	252	12,146	....	.....	24,619	37,017	.....	75,079	10,936	...	86,015
12	1,253	3,294	72	....	3,059	1,741	1,440	2,450	2,304	763	19,859	1,644	3,136	8,328	42,500	12,488	68,096	2,366	49,638	3,700	2,309	58,013
13	3,904	97	577	986	5,488	2,700	7,604	4,906	7,857	1,257	40,289	701	2,491	30,750	100,000	10 345	144,287	4,200	140,439	6,000	....	150,639
14	21,379	5,997	1,648	.....	21,696	16,563	24,592	112,864	23,437	3,542	269,591	577	40,654	93,635	180,314	161,561	476,741	.....	478,071	57,259	295	535,625
15	1,564	.....	436	1,509	7,210	3,500	3,100	14,350	3,321	562	43,292	6,322	.....	3,500	.....	54,200	64,022	.....	65,800	4,500	.....	70,300
16	1,611	802	100	813	4,500	26,085	6,000	.....	1,361	719	46,228	10,219	4,909	30,396	.....	19,000	64,524	...	54,500	.	9,232	63,732
17	6,267	318	467	1,625	7,907	.....	498	11,499	12,103	6,074	57,547	..	10,596	.....	.....	159,450	170,046	1,375	205,916	5,133	1,464	213,888
18	8,565	2,553	926	1,854	11,639	462	8,330	40,550	12,297	1,240	103,493	3,376	624	3,344	106,200	117,689	231,233	1,128	239,046	....	236	240,410
19	8,991	1,276	962	2,596	17,288	4,530	7,094	102,172	13,515	1,609	176,465	..	21, 426	16, 380	93,165	46,450	177,421	9,553	227,314	16,748	.....	253,615
20	1,701	754	55	1,108	6,924	584	1,276	1,167	2,014	26,478	45,942	965	243	584	40,644	4,968	47,401	.....	69,539	.....	.....	69,539
21	1,643	362	482	557	3,184	.....	1,977	13,323	1,179	51	25,159	....	3,879	.....	.....	35,950	39,829	.....	13,865	8,528	.....	22,393
22	2,859	6,720	539	1,067	6,349	963	904	2,740	3,075	1,082	30,891	4,547	15,793	15,561	46,476	77,367	159,744	.....	69,098	1,500	752	71,350
23	4,908	187	103	341	1,223	26	18,796	... .	2,549	92	29,099	5,269	353	462	. . ..	7,100	13,184	....	22,323	4,141	103	26,570
24	454	939	68	404	3,453	...	2,311	6,004	3,073	171	19,608	120	5,000	....	32,931	6,733	44,784	2,504	47,079	6,500	....	56,083
25	1,069	.....	207	366	3,209	525	1,365	5,675	952	548	15,509	861	687	...	.....	13,530	15,078	.....	9,125	650	....	9,775
26	5,175	49,963	503	.....	6,838	14, 223	.....	25,498	9,341	5,581	129,105	714	16,860	29,191	47,019	52,358	146,172	372	142,253	62,771	4,480	209,876
27	19,281	7,181	1,476	3,899	14, 850	10, 199	.....	20,547	12,788	2,554	110,687	.....	3,709	78, 777	152,500	85,747	320,733	. ..	266,526	19, 233	3,036	288,795
28	3,402	.....	79	1,314	6,500	2,328	.....	23,000	3,842	892	46,777	1,169	1,692	14, 305	30,000	30,610	77,776	.....	66,536	4,500	139	71,175
29	3,167	1,394	468	963	7,602	43, 102	704	86,200	8,887	1,401	165,501	2,875	5,680	60, 530	103,202	52,985	225,272	... ..	145,735	60,000	...	205,735
30	155	.....	43	.....	1,716	127	.....	100	195	109	3,168	148	1,495	1 265	.....	2,164	5,072	608	1,850	1,000	86	3,514
31	800	791	146	....	4,403	.....	1,335	8,365	1,841	662	22,122	1,589	8,206	....	.....	11,100	20,895	3,441	27,089	5,108	629	36,267
32	804	.....	15	806	3,459	... ..	29,216	8,226	2,637	109	47,115	1,208	5,116	.....	.....	13,300	19,624	723	30,070	1,957	.....	32,750

TOWN MUNICIPALITIES.—*Continued.*

No.	Town Municipalities.	County in which located.	Population, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.								Disbursements, 1898.			
					Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	License fees, rents, fines, etc.	Water, gas and electric light rates.	Refund and interest from S. F. and other investments.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.	Allowances, salaries and commissions.	Lighting of streets, water supply and fire protection.	Other expenses of municipal government.	Administration of justice, including police service.
				$	$	$		$	$	$	$	$	$	$	$	$	$	$	$	$
33	Hawkesbury ..	Prescott.....	3,309	263,705	8,429	2 55	32.0	504	6,973	321	.....	.....	3,760	.....	.....	11,558	352	143	277	308
34	Ingersoll	Oxford	4,815	1,424,660	34,499	7 12	24.2	.....	35.122	2,753	..	2,580	6,986	21,314	2,857	71,112	1,364	6,569	1,446	1,404
35	Kincardine	Bruce	2,137	644,788	16,614	7 77	25.8	3,896	14,611	705	4,275	13,365	4,800	.....	1,569	43,221	520	5,621	1,300	330
36	Leamington	Essex	3,025	483,915	8,532	2 82	17.6	.....	9,681	698	12,076	.....	53,042	.....	726	76,223	926	2,175	673	158
37	Lindsay	Victoria.....	6 533	1,929,750	51, 655	7 91	26.8	1,334	51,015	3,468	.....	1,604	2,124	.....	1,575	61,120	2,222	6,391	2,249	1,910
38	Listowel	Perth	2,627	803,390	17,367	6 61	21.6	...	19,418	1,069	....	19	13,677	6,110	414	40,707	717	3,974	673	10
39	Little Current..	Manitoulin ..	550	106,000	1,569	2 85	14.7	238	1,868	136	.....	.....	.....	.....	.....	2,242	176	7	95	48
40	Mattawa	Nipissing	1,200	274,951	7,086	5 91	25.8	186	5,160	669	.....	.....	1,639	.....	6	7,660	393	272	450	582
41	Meaford	Grey	1,801	535,995	10,083	5 60	18.8	1,767	11,651	818	1,154	.....	7,850	.....	168	23,408	978	1,889	418	31
42	Midland	Simcoe	2,450	495,105	12, 451	5 08	25.1	959	9,600	785	.....	167	17,300	25,000	5,562	59,373	543	1,528	394	322
43	Milton	Halton	1,321	415,285	7,157	5 42	17.2	1,985	7,701	450	990	550	100	.....	39	11,915	552	1,005	252	71
44	Mitchell	Perth	2,133	676,135	14,288	6 70	21.1	438	13,698	863	1,625	.....	49,635	.....	227	66,486	542	3,897	770	570
45	Mount Forest ..	Wellington ..	2,185	635,295	14,436	6 61	22.7	606	14,205	1,305	57	1,721	41,400	40,500	1,700	101,494	672	1,399	527	325
46	Napanee	Lennox & Add.	3,044	918,655	26,101	8 57	28.4	496	24,514	3,208	.....	32	.....	.....	51	28,301	1,715	4,190	632	727
47	Newmarket	York	2,225	508,370	11, 450	5 15	22.5	319	12,082	659	5,232	75	3,700	....	127	22,194	745	4,005	923	68
48	Niagara	Lincoln	1,261	498,160	10, 049	7 97	20.2	398	10,226	887	3,455	4	4,600	.....	206	19,776	649	3,369	1,406	461
49	Niagara Falls..	Welland	4,313	2,180,930	44, 551	10 33	20.4	418	42,426	1,641	9,488	22, 021	46,234	1,500	2,046	125,774	4,574	8,969	2,551	1,559
50	North Toronto..	York	1,658	875,614	17, 594	10 61	20.1	.....	24, 034	369	1,912	2,263	13,620	787	554	43,539	1,3t0	2,493	1,103	400
51	North Bay	Nipissing.....	2,432	459,793	11, 836	4 87	25.7	577	9,304	1,215	3,302	185	6,886	8,500	1,879	31,848	720	2,161	605	837
52	Oakville.....	Halton	1,632	454,152	10, 201	6 25	22.5	.....	10, 347	536	....	5,803	6,964	.....	318	23,968	600	1,094	562	596
53	Orangevills	Dufferin	4,025	776,410	18, 579	4 62	23.9	1,243	17,016	1,051	1,234	1,558	24,480	.....	32	46,614	866	3,174	620	511
54	Orillia	Simcoe	4,577	1,360,179	30, 872	6 75	22.7	4,122	31, 529	2,852	11, 116	36	15,000	4,600	1,228	70,483	2,730	8,821	1,470	915
55	Oshawa	Ontario	4,201	1,108,430	23, 828	5 67	21.5	...	24, 872	1,082	...	.....	5,926	.....	7	31,887	1,048	2,355	746	600
56	Owen Sound....	Grey	8,395	2,602,779	64, 228	7 65	24.7	19, 409	60, 311	3,407	6,999	5,688	16,405	... ...	4,579	116,798	3,818	3,729	2,081	3,246
57	Palmerston	Wellington...	1,834	444,887	10, 317	5 63	23.2	1,568	9,193	439	.....	43	21,400	32,000	1,001	65,644	518	796	434	452
58	Paris.....	Brant.....	3,280	1,027,275	19, 352	5 90	18.8	2,547	19,138	854	4,777	867	6,200	.....	532	34,915	1,089	5,021	973	693
59	Parkhill.....	Middlesex ...	1,460	344,180	7,067	4 84	20.5	7	9,987	540	.....	128	3,500	.....	.....	14,162	561	764	282	100
60	Parry Sound....	Parry Sound..	2,153	405,830	11, 901	5 53	29.3	260	11, 560	375	1,539	141	21,200	.....	235	35,310	658	1,728	499	366
61	Pembroke	Renfrew	5,062	1,161,750	27, 051	5 34	23.3	.....	26, 405	2,278	4,529	.....	.....	.....	310	33,522	1,501	1,769	615	350
62	Penetanguishene	Simcoe	2,253	474,825	11, 405	5 06	24.0	1,253	10, 914	748	2,211	529	5,000	3,500	250	24,405	622	2,401	248	425
63	Perth	Lanark	3,759	1,269,605	29, 234	7 78	23.0	2,676	20, 756	1,877	.....	15	.....	.....	1,416	26,740	791	4,333	1,177	871
64	Peterborough. .	Peterborough.	10, 554	4,339,555	75, 443	7 15	17.4	4,025	78, 418	11, 086	.....	34, 760	34,997	48,111	2,094	213,491	3,734	16, 722	4,032	5,757
65	Petrolea.....	Lambton	4,695	1,194,010	37, 763	8 04	31.6	4,274	39, 772	2,556	8,337	190	53,111	.....	1,366	109,606	3,214	7,060	3,898	1,301
66	Picton	Prince Edwr'd	3,548	1,305,665	22, 092	6 23	16.9	498	22, 115	1,922	2,878	10	.....	.....	.....	27,423	1,630	4,648	870	703

TOWN MUNICIPALITIES.—*Continued.*

No.	Disbursements, 1898.—*Continued.*										Assets, December 31, 1898.						Liabilities, December 31, 1898.				
	Streets, bridges and parks.	Construction of buildings, water-works, etc.	Charities.	County levy.	Payment on account of schools and education.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Fund and other investments and deposits.	Waterworks, gas and electric light plant.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans for current expenses.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
33	1,055	160	5	639	4,138	..	.....	3,781	271	42	11,171	387	2,352	..	....	200	2,939	1,104	.....	2,059	....	3,163
34	8,516	.....	246	2,293	9,800	3,090	1,000	26,948	5,593	2,842	71,111	1	7,936	39,719	.....	66,295	113,951	.....	151,138	6,986	.....	158,124
35	1,246	752	159	673	5,342	6,050	9,112	5,070	4,353	743	41,271	1,950	6,739	13,252	55,569	34,800	112,310	4,002	76,373	2,555	.....	82,930
36	704	3,555	237	.....	4,924	.....	3,491	52,787	5,234	902	75,766	457	5,952	.....	50,000	35,549	91,958	4,215	86,581	14,100	576	105,472
37	4,790	3,678	574	3,004	13,618	2,609	2,562	5,400	9,718	1,823	60,548	572	17,051	21,786	.....	44,049	83,458	2,998	191,247	10,724	3,965	208,934
38	8,472	.....	210	1,151	4,090	3,367	205	12,443	4,969	435	40,707	.....	861	3,673	5,600	9,750	19,884	....	94,905	6,722	737	102,364
39	78	190	5	.....	500	.....	165	.....	166	242	1,672	570	543	.....	.....	2,927	4,040	508	2,607	.....	72	3,187
40	248	.....	79	.....	3,149	139	458	772	1,005	55	7,602	58	8,254	973	.....	11,032	20,317	2,378	19,441	3,678	763	26,260
41	730	541	47	794	3,229	.....	1,930	9,050	1,974	408	22,019	1,389	962	... .	20,000	26,717	49,068	.....	31,597	1,600	60	33,257
42	1,130	1,083	275	835	3,297	.....	1,688	20,300	2,428	315	34,138	25,235	4,411	.....	... ...	11,450	41,096	.....	40,102	.....	.....	40,102
43	718	240	60	441	511	335	1,518	200	2,248	198	8,449	3,466	1,655	3,190	23,640	8,420	40,371	700	43,061	.....	....	43,761
44	9,162	.....	193	852	3,827	.....	1,404	42,905	1,978	381	66,481	5	205	....	24,000	21,104	45,314	870	33,923	7,730	871	43,394
45	2,531	26,328	96	994	4,569	2,405	15,566	41,400	4,155	232	101,199	295	252	11,749	28,149	10,299	50,744	.....	91,999	2,000	98	94,097
46	3,643	.....	480	2,100	7,180	.....	3,143	.....	3,942	336	28,088	213	18,076	..	.....	22,363	40,652	8,000	66,453	.....	71	74,524
47	810	.....	26	751	3,973	731	1,548	4,700	2,575	154	21,009	1,185	287	1,995	40,250	19,393	63,110	1,945	55,754	.....	381	58,080
48	1,914	418	35	.....	2,303	.....	2,046	3,188	2,906	1,027	19,722	54	3,422	.....	51,520	22,209	77,205	2,277	45,752	7,963	738	56,730
49	11,512	12,378	860	.....	11,728	...	8,170	40,640	12,095	4,220	119,256	6,518	13,364	.....	121,150	177,277	318,309	.....	218,503	18,234	....	236,737
50	2,637	.....	85	1,530	3,722	3,771	1,050	14,143	4,203	6,841	43,328	211	9,471	14,499	45,125	23,169	92,475	1,593	78,749	5,700	4,823	90,865
51	2,499	95	203	.....	4,008	.....	2,177	12,615	4,779	900	31,599	249	6,830	....	48,000	5,073	60,152	3,244	54,154	3,979	41	61,418
52	1,742	683	100	390	2,798	6,437	. ...	5,935	2,399	154	23,490	478	4,605	11,132	.....	28,960	44,575	2,784	25,500	3,029	..	31,313
53	9,376	462	123	.. ..	5,336	2,033	1,319	16,678	5,692	408	46,598	16	5,503	9,404	47,329	27,470	89,722	4,707	111,283	8,580	924	125,494
54	4,964	1,442	403	1,244	11,160	.....	8,337	15,000	7,860	492	64,838	5,645	8,843	.....	103,004	25,299	142,791	10,873	143,917	.....	500	155,290
55	3,309	422	856	1,123	8,575	.....	2,368	7,525	2,304	656	31,887	....	2,806	.....	.....	17,038	19,844	.....	36,556	1,725	...	38,281
56	12,163	6,264	1,030	2,795	16,050	11,401	9,014	3,243	23,816	660	99,310	17,488	35,758	71,133	112,078	98,295	334,752	18,081	476,264	18,115	113	512,573
57	851	1,092	26	.....	2,817	43	30,672	22,400	3,873	532	64,506	1,138	3,678	845	.....	7,528	13,189	857	65,395	2,000	.....	68,252
58	3,229	150	515	1,165	7,203	1,250	2,623	6,200	3,937	600	34,648	267	652	9,750	55,830	54,000	120,499	...	42,715	.....	.....	42,715
59	1,137	.....	41	448	3,143	564	400	3,500	949	898	12,787	1,375	1,282	3,943	.....	11,211	17,811	474	15,000	.....	....	15,474
60	3,321	810	166	.....	4,200	.....	799	19,500	2,275	973	35,295	15	7,637	..	34,225	7,301	49,178	....	36,288	8,200	.....	44,488
61	2,640	2,115	36	2,392	9,491	672	4,290	1,503	5,090	550	33,014	508	26,353	672	60,156	29,325	117,014	11,831	121,941	.....	1,439	135,211
62	787	1,723	139	419	5,915	19	882	4,850	3,065	944	22,439	1,966	7,540	1,607	38,000	14,775	63,888	976	56,094	4,588	7,403	69,061
63	4,790	447	270	.... .	5,906	.....	1,300	.....	485	1,456	21,826	4,914	918	.....	.....	26,413	32,245	3,755	21,700	.....	755	26,210
64	17,278	14,147	2,425	...	27,700	7,500	59,000	36,607	14,378	2,795	212,075	1,416	9,178	77,330	.....	400,469	488,393	445	250,161	61,363	1,844	313,813
65	3,476	17,076	384	1,082	12,600	.....	11,376	32,000	15,329	810	109,606	.....	34,122	.....	183,895	56,690	274,707	12,701	222,367	21,600	6,681	263,349
66	2,814	19	658	2,638	6,763	.....	3,374	.....	2,204	775	27,096	327	4,065	.....	50,500	14,823	69,715	4,000	37,844	.....	65	41,909

No.	Town Municipalities.	County in which located.	Population, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.									Disbursements, 1898.			
					Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Licenses, fees, rents, fines, etc.	Water, gas and electric light rates.	Refund and interest from S. F. and other investments.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.	Allowances, salaries and commissions.	Lighting of streets, water supply and fire protection.	Other expenses of municipal government.	Administration of justice, including police service.
				$	$	$		$	$	$	$	$	$	$	$	$	$	$	$	$
67	Port Arthur....	Thunder Bay.	2,424	1,017,353	28,281	11 67	27.8	1,184	29,338	2,320	12,421	1,259	17,926	500	12,122	77,070	1,119	1,849	851	692
68	Port Hope	Durham	4,336	1,465,710	27,849	6 42	19.0	2,473	29,811	5,909	2,348	1,459	38,500	....	167	80,667	2,497	4,578	847	672
69	Prescott.....	Grenville	2,769	866,340	19,204	6 94	22.2	161	16,559	2,685	...	.....	4,000	....	80	23,485	1,592	2,210	1,208	982
70	Rat Portage....	Rainy River..	5,479	1,568,929	38,437	7 02	24.5	1,014	16,111	5,214	6,000	.....	84,000	.....	2,249	114,588	1,981	4,544	2,983	2,677
71	Renfrew	Renfrew	3,053	1,042,345	20,394	6 68	19.6	21,810	16,613	1,090	798	548	4,175	... .	24	45,088	638	3,498	434	515
72	Ridgetown	Kent	2,195	643,740	13,189	6 01	20.5	....	20,630	1,772	....	918	29,500	....	109	52,929	465	1,925	536	397
73	St. Marys	Perth	3,200	1,187,455	24,741	7 73	20.8	496	22,107	1,311	.....	....	19,500	2,000	740	46,154	703	2,812	795	824
74	Sandwich	Essex	1,425	430,007	7,280	5 11	16 9	170	7,247	459	1,131	43	3,000	2,500	223	14,753	574	2,072	264	95
75	Sarnia	Lambton.....	6,966	2,063,115	53,368	7 66	25.9	101	54,896	2,769	13,430	26,990	89,822	25,000	1,548	214,556	3,017	13,425	1,319	2,465
76	Sault Ste. Marie	Algoma	3,267	1,822,347	34,183	10 46	18.8	..	30,006	550	....	7,019	9,962	10,508	596	58,641	2,109	5,697	756	848
77	Seaforth	Huron	2,409	625,405	14,868	6 17	23.8	226	15,191	1,081	715	3,916	12,156	.....	114	33,402	844	2,253	353	485
78	Simcoe	Norfolk	2,870	957,591	18,421	6 42	19.2	468	25,860	1,024	.....	4,616	9,506	6,784	1,376	49,664	1,114	3,275	603	106
79	Smith's Falls...	Lanark	4,728	1,119,033	20,972	4 44	18.7	12,049	22,727	2,306	.....	38	6,750	.....	108	43,978	928	3,293	2,319	634
80	Stayner	Simcoe	1,229	216,200	3,953	3 22	18.3	1,932	3,862	526	... .	...	642	.....	77	7,039	721	739	258	131
81	Strathroy	Middlesex ...	3,063	938,207	19,672	6 42	21.0	627	20,996	1,237	.. ..	830	14,500	.... ..	452	38,642	1,077	2,669	707	465
82	Sturgeon Falls..	Nipissing	820	161,000	4,124	5 03	25 6	...	3,093	616	.....	.....	.....	.....	.....	3,709	251	....	287	..
83	Sudbury	Nipissing	1,610	308,653	7,099	4 41	23.0	3,396	9,592	1,124	3,778	.....	.....	.....	109	17,999	679	5,170	391	250
84	Thessalon	Algoma	869	166,943	4,922	5 66	29.5	537	2,978	277	. ..	2	2,700	... .	201	6,695	217	841	164	375
85	Thornbury	Grey.....	700	228,041	3,768	5 38	16.5	674	4,362	130	.....	24	1,000	.....	29	6,219	317	278	162	71
86	Thorold	Welland.....	2,131	601,327	16,037	7 53	26.7	778	16,986	678	1,426	....	7,000	.....	270	27,138	648	2,786	663	543
87	Tilsonburg	Oxford.....	2,281	735,875	15,753	6 91	21.4	7,621	16,152	1,401	.....	6,243	....	5,500	80	36,997	651	1,325	570	733
88	Toronto Junct'n	York	5,510	1,716,755	46,315	8 41	27.0	22,211	54,272	1,801	7,101	912	9,000	117,350	1,081	213,728	2,601	11,695	7,624	3,419
89	Trenton	Hastings.....	3,789	1,296,387	26,038	6 87	20.1	243	32,600	1,742	.....	10,240	111,890	..... .	167	156,882	1,327	2,191	2,241	1,203
90	Uxbridge	Ontario	1,745	519,725	11,954	6 85	23 0	905	12,182	719	.....	164	12,395	.. ..	392	26,757	534	1,215	556	417
91	Vankleek Hill..	Prescott	1,352	422,350	5,402	4 00	12.8	2,432	5,876	598	....		1,300	3,000	353	13,559	206	262	266	256
92	Walkerton	Bruce	3,162	681,590	16,248	5 14	23.8	2,823	15,517	1,405	1,586	9,885	33,117	5,628	1,531	71,492	663	1,591	1,650	300
93	Walkerville	Essex	1,183	1,986,951	29,318	24 78	14.8	.....	25,547	311	....	157	31,000	11,768	628	69,411	1,148	2,935	1,007	1,861
94	Wallaceburg ...	Kent	2,888	515,615	13,503	4 68	26.2	338	13,809	1,170	.....	72	3,529	5,000	695	24,613	1,427	1,829	730	617
95	Waterloo	Waterloo	3,450	1,362,240	23,073	6 69	16 9	.	22,163	981	.....	1,128	22,000	6,903	567	53,742	2,049	3,838	714	255
96	Welland	Welland	1,850	624,889	15,174	8 20	24.3	4,295	14,810	813	3,340	1,443	.....	3,200	82	27,983	1,305	2,728	986	150
97	Whitby	Ontario	2,273	871,493	17,009	7 48	19 5	46	18,928	1,160	.....	. ..	45,450	....	37	65,621	1,003	1,954	986	427
98	Wiarton.....	Bruce	2,052	400,415	9,993	4 87	25.0	....	9,899	541	2,153	231	10,000	7,339	49	30,212	480	2,149	437	325
99	Wingham	Huron	2,204	554,461	12,205	5 54	22.0	2,597	12,456	881	.....	4,512	11,000	9,331	283	41,060	676	1,766	416	428
100	Woodstock	Oxford	9,317	2,776,600	61,766	6 63	22.3	13,541	64,231	5,831	9,205	20,575	16,000	11,889	111	141,383	3,047	13,213	2,194	2,598

TOWN MUNICIPALITIES.—*Concluded.*

No.	Disbursements, 1898.—*Continued.*											Assets, December 31, 1898.						Liabilities, December 31, 1898.				
	Streets, bridges and parks.	Construction of buildings, waterworks, etc.	Charities.	County levy.	Payment on account of schools and education.	Sinking Fund and other investment and deposits	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Waterworks, gas and electric light plant.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans for current expenses.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
67	1,155	7,589	365	.....	5,169	3,038		13,841	13,015	6,868	75,551	1,519	11,164	17,77	127,938	30,665	219,063	2,396	241,250	36,722	17,199	297,567
68	2,879	1,392	259	1,375	7,727	1,277	1 370	43,500	11, 191	845	80,409	258	9,310	17,97	59,654	198 211	285,407		231,772	5,300	584	237,656
69	2,166	155	477	..	5,314	.....	954	3,500	1,588	1,960	22,106	1,379	9,491	....	.....	55,490	66 360	4,776	32,784	1,500	715	39,775
70	3,970	10, 157	1,274	..	21. 395	.....	2,522	51,144	6,478	5,109	114,244	351	38, 127	.....	6,388	30,425	75,294	13, 929	87,481	13,000	1,410	145,820
71	3,481	20, 560	663	1,127	4,605	300	2,116	.....	4,908	634	43,779	1,309	15, 437	2,250	80,000	13,250	112,246	8,092	100,879	5,175	.....	114,146
72	1,238	..	281	863	5,685	37	2 341	33,398	3,643	206	51,015	1,914	1,163	1,238	.....	25,376	29,691	865	66,421	..	.....	67,286
73	5,810		355	.....	7,452	....	5 301	16,000	4,154	1,600	45,836	318	2,447	....	2,050	36,705	41,520	.....	47,10	3 500	31	50,632
74	813	3,058	158	388	1,875	.....	817	3,000	1,295	340	14,749	4	7,075	...	19,056	11,563	37,698	2,529	24,515	3,015	219	30,278
75	4,493	21, 517	1,680	2,000	14,638	21, 530	16, 815	96,767	13, 576	1.187	214,459	97	31,898	40 705	115 500	61,167	252,367		253,853	1 041	5,237	260,131
76	2,111	..	58	..	6,097	858	8,822	9,993	19, 914	1,378	58,641	...	26, 886	276021	....	22,92	325,831	5,991	391 070	9,962	6,133	413,159
77	2,255	58	43	564	4,850	600	6,000	11,556	1,637	708	32,206	1,196	1,10	24,900	13,0 0	17,800	57,999	.....	44,000	3,760	..	47,760
78	9,885	.. .	306	1,891	5,300	5,195	4,076	11,500	5,247	1,166	49,664	.....	1,837	5,195	.....	24,980	32,012	.....	77,862	9,5 6	578	87,941
79	2,578	.....	175	1,778	8,000	....	1,893	8,350	3,704	885	37,537	6,441	924	.....	.....	51,000	61,265		60,118	4,933	2,085	67,136
80	360	220	33	339	1,800	....	230	642	38	83	5,614	1,425	550	.....	...	2,970	4,945	1,693	250	...	166	2,109
81	1,451	111	81	1,195	6,400	...	3,230	16,500	2,535	1,414	37,838	801	2,124	15, 434	.....	13,115	31,477	1,267	37,936	1,000	....	40,263
82	444	....	..	....	850	.....	...	29	...	392	2,253	1,456	1,930	....	.....	119	3,535	953	...	1,555	2,253	4,761
83	780	2,017	131	.....	2,490	...	1,320	1,0 0	3,116	68	17,412	587	6,279	....	56,000	3,930	66,796	1,905	49,550	4,0 0	2,863	58,318
84	401	181	76	.....	1,614	102	.. ..	1,300	167	52	5,496	1,199	786	102	.....	3,701	5,788	690	2,000	2,202	511	5,403
85	495		7	273	1,450	99	262	1,000	323	162	4,899	1,320	433	877	.....	1,673	4,305	1,670	5,597	....	93	7,360
86	1,858	1,300	611	957	4,670	...	1,277	7,000	2,9 0	1,321	26,541	594	4,240	.....	17,000	18,500	40,334	4,333	13,868	....	578	18,779
87	1,783	3,261	83	1,183	5,309	8,682	3,075	... ..	4 339	217	31,211	5,786	1,060	17, 370	33,500	24,574	82,290	..	96,889	....	.....	96,889
88	7,463	1,440	401	...	14, 274	..	6,700	23,818	83, 143	29, 317	191,895	21, 833	66, 144	.....	174,000	526,145	788,122	8,250	1 067,650	9,125	15,077	1 100,102
89	1,380	....	955	. ....	6,219	240	10, 471	113,990	8,199	7,518	155,934	948	28, 773	6,933	12,000	135,846	184,500	2,956	137,796	12, 000	5,244	157,996
90	1,383	....	323	566	3,650	1,434	...	13,896	2,345	362	26,681	76	3,221	6,567	10,000	14,895	34,759	....	39,900	2,896	588	43,384
91	643	185	6	800	6,625	..		1,300	9	936	11,494	2,065	220	.....	.....	750	3,035	1,700	3,000	...	6,874	11,574
92	3,789	8,446	379	740	5,264	207	7,412	33,248	5,667	2,136	71,492	.....	10,089	28, 033	35,000	30,899	104,021	348	102,761	13, 693	2,987	119,789
93	2,559	797	10	...	3,636		7,701	34,467	3,356	1,582	61,059	8,352	168	....	.....	49,901	58,421	....	47,603	.....	1,084	48,687
94	3,300	....	387	1,694	5,309	... .	3,669	1,000	2.992	624	23,588	1,025	12, 244	...	.....	16,150	29,419	3,212	47,146	13,829	.....	64,187
95	7,880	1,701	476	1,774	5,634	687	2,044	22,277	3,013	1,249	53,591	151	878	1,321	. ....	62,645	61,998	5,400	61,786	4,000	2,506	73,692
96	1,771	2,816	135	1,796	4,650	2,188	1,659	.....	4,418	207	24,839	3,144	4,085	35,057	56,974	18,689	117,949	2,600	87,196	....	...	89,696
97	1,650	.. .	400	804	6,825	....	1,710	45,500	3,635	71	61,965	656	19,793	.....	4,000	23,225	47,674	...	61,985	15,350	456	77,791
98	733	.....	27	416	2,864	.....	904	7,828	2,802	5,175	24,137	6,075	1,915	8,000	28,300	1,797	46,087	861	54,738	8,436	336	64 371
99	8,277	126	29	390	3,460	4,939	2,732	9,279	3,343	819	36,680	4,380	389	20,128	11,400	25,417	61 714	.....	74,573	7,851	2,547	84,974
100	9,313	4,107	838	4,477	15, 047	11, 955	214	30,192	24,366	1,073	122,634	18,749	10,877	157186	163,768	66,418	416,998	5,543	474,243	8,867	50	488,703

TABLE III. VILLAGE MUNICIPALITIES.

No.	Village Municipalities.	County in which located	Population, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.								Disbursements, 1898.			
					Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Licenses, fees, rents, fines, etc.	Water, gas and electric light rates.	Refund and interest from S. F. and other investments.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.	Allowances, salaries and commissions.	Lighting of streets, water supply and fire protection.	Other expenses of municipal government.	Administration of justice, including police service.
				$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
1	Acton	Halton	1,414	285,105	5,645	3 99	19.8	552	4,746	459		22	1,433	6,000	587	13,799	570	331	304	22
2	Ailsa Craig	Middlesex	727	128,655	2,410	3 31	18 7	87	2,494	314		476	600			4,001	165	110	146	26
3	Alexandria	Glengarry	1,497	209,632	6,265	4 25	30.4	58	10,214	666	2,132	3	4,300		308	17,681	255	2,800	322	245
4	Alvinston	Lambton	1,006	198,315	5,301	5 27	26.7	408	4,105	465			1,614		184	6,776	317	980	253	14
5	Arkona	Lambton	419	82,200	1,260	2 81	15 3	283	1,102	182					6	1,573	119		79	38
6	Arthur	Wellington	1,264	251,705	5,187	4 10	20.6	313	5,202	602		245	2,000		48	8,410	542	5	247	12
7	Ashburnham	Peterborough	1,763	432,819	6,596	3 74	15.2	96	7,302	799		12	10,400	12,000	294	30,903	381	858	258	85
8	Athens	Leeds	956	178,300	3,631	3 80	20.4	654	3,431	91					24	4,200	131	84	90	35
9	Ayr	Waterloo	879	268,204	4,141	4 70	15.4		4,359	229		148	48		100	4,884	228	87	100	31
10	Bath	Lennox & Add	402	118,162	1,897	4 72	16.1	469	1,831	172			100		4	2,576	104		139	8
11	Byfield	Huron	550	89,388	1,398	2 54	15.6	91	1,295	156			6		4	1,552	101	180	40	
12	Beamsville	Lincoln	791	185,940	3,919	4 95	21.1	102	3,866	266	474		1,485		151	6,344	158	316	135	24
13	Beaverton	Ontario	715	157,673	2 614	3 66	16.6	799	2,857	190		246	420		129	4,641	194	221	111	25
14	Beeton	Simcoe	707	148,280	3,114	4 40	21.0	852	2,927	227	1,088	502	2,000		98	7,694	250	115	355	
15	Belle River	Essex	562	60,070	1,195	2 13	19.9	541	1,216	131						1,888	149	1	42	7
16	Blyth	Huron	937	207,820	3,730	3 98	17.9	177	4,500	314		286	1,848			7,125	261	417	151	19
17	Bobcaygeon	Victoria	895	148,451	2,985	3 34	20 1	3,600	3,019	301					9	6,929	129	103	143	323
18	Bolton	Peel	636	153,475	2,328	3 66	15.2	35	2,334	360			600			3,329	194	31	192	19
19	Bradford	Simcoe	974	251,358	5,388	5 53	21.4		4,665	292		3,954	1,924			10,835	503	183	118	75
20	Bridgeburg	Welland	1,234	469,980	6,110	4 95	13.0	1,008	6,179	206		23	3,375	3,200	122	14,113	205	6	296	102
21	Brighton	Northumberland	1,440	438,950	5,791	4 02	13.2	233	5,710	243			1,600		5	7,821	382	435	344	
22	Brussels	Huron	1,193	313,790	6,336	5 31	20 2	240	5,165	536		964		22,200	1,138	29,543	509	538	357	100
23	Burk's Falls	Parry Sound	675	128,988	3,442	5 10	26.7	303	3,913	80		38	2,100		128	6,562	193	157	442	20
24	Burlington	Halton	1,142	365,350	4,747	4 16	13 0	220	4,459	344		109	2,400		44	7,576	323	706	192	146
25	Caledonia	Haldimand	983	173,659	3,473	3 53	20.0	629	3,836	484		16			37	5,002	330	181	118	79
26	Campbellford	Northdm'land	2,323	756,005	12,850	5 53	17.0	5,160	13,072	682	1,288		1,250	8,000	710	30,162	490	1,017	428	660
27	Cannington	Ontario	1,293	276,930	4,153	3 21	15.0		4,121	317			2,509		36	6,983	153	280	246	31
28	Cardinal	Greuville	1,316	361,390	4,361	3 31	12.1	187	3,903	625			1,000		66	5,781	189	677	325	480
29	Casselman	Russell	612	44,947	1,395	2 28	31.0	224	1,466	63				300		2,053	197		22	
30	Cayuga	Haldimand	1,125	176,155	3,633	3 23	20.6	340	4,610	381		4	1,400		276	7,011	311	399	171	6
31	Chesley	Bruce	1,775	360,650	7,799	4 39	21.6	3,555	8,344	290		15	2,000		334	14,538	303	783	163	379
32	Chesterville	Dundas	856	148,425	2,988	3 49	20.1	268	2,333	296			1,788		15	4,700	104		129	5
33	Chippawa	Welland	470	123,060	1,633	3 47	13.3	372	1,684	366		5				2,427	140	5	104	12
34	Clifford	Wellington	625	124,410	1,650	2 64	13.3	657	1,699	184		21			33	2,594	163	36	120	25
35	Colborne	Northum'land	1,028	288,020	5,736	5 58	19.9	215	5,353	152			1,100		25	6,845	283	325	260	46

VILLAGE MUNICIPALITIES.—*Continued.*

No.	Disbursements, 1898.—*Continued.*											Assets on December 31, 1898						Liabilities on December 31, 1898.				
	Streets, bridges and parks.	Construction of buildings, waterworks, etc.	Charities.	County levy.	Payment on account of schools and education.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Fund and other investments and deposits.	Waterworks, gas and electric light plant.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans for current expenses.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
1	868	1,151	23	275	1,300	840	380	1,000	865	440	8,369	5,430	809	2,618	1,151	17,200	27,208	300	21,290	433	...	22,023
2	162	.....	29	210	1,321	478	409	600	82	218	3,956	45	139	578	.....	1,465	2,227	...	435	.....	...	435
3	883	1,179	63	418	3,057	...	704	5,700	1,959	60	17,645	36	2,283	.....	36,675	3,855	42,849	680	36,028	2,300	300	39,308
4	1,498	...	200	202	1,099	.....	563	1,400	192	58	6,776	.....	107	....	.....	4,852	4,959	....	2,414	214	.....	2,628
5	375	.....	25	111	543	...	....	.....	1	89	1,380	193	3	.....	.....	1,031	1,227	305	.....	.....	.....	305
6	768	...	3	487	1,639	661		2 567	1,125	229	8,285	125	951	3,656	.. ...	571	5,303	812	18,500	.....	145	19,457
7	1 497	6,415	103	1,625	2,154	408	2,590	12,900	827	91	30,222	681	896	408	6,445	6,946	15,376	.....	16,911	.....	88	16,999
8	521	....	1	261	1,925	.	.. ..	....	.	509	3,557	643	148	..	.....	491	1,285	.....	... ...	..	1,918	1,918
9	501	.....	24	384	1,645	257	306	402	720	199	4,884	.. ..	394	3,749	.....	3,820	7,963	205	12,825	48	.....	13,078
10	333	....	73	600	826	....	.. .	100	3	46	2,232	544	241	2,000	.... ..	1,707	4,292	249	.....	....	35	284
11	209	.....	2	121	750	.....	...	....	.	149	1,552	.....	947	.....	.....	750	1,697	500	.....	6	...	506
12	532	.. .	85	775	1,325	..	372	1,485	788	157	6,182	162	299	....	15,000	2,788	18,249	....	13,370	1,061	233	14,664
13	465	...	11	246	849	182	475	650	349	63	3,841	800	746	2,700	.....	8,835	13,081	817	5,400	1,370	.....	7,587
14	263	2,802	75	109	760	.....	875	1,000	908	157	7,669	25	13	.....	30,000	7,276	37,314	26	16,603	1,000	1,891	19,520
15	430	....	20	55	566	..	.....	..		189	1,459	429	492	.....	.....	700	1,621	461	.....	.....	8	469
16	647	. ..	6	381	1,200	449	102	2,295	867	147	6,982	143	218	7,397	800	4,350	12,908	869	13,506	3,243	...	17,618
17	364	87	6	298	1,253	435	..	.....	300	56	3,497	3,432	188	4,127	.....	5,284	13,031	1,498	6,000	.....		7,498
18	632	.....	31	135	917	...	129	600	46	230	3,156	173	6	.....	.....	2,030	2,209	....	426	....	700	1,126
19	909	225	5	300	1,900	...	1,531	1,365	571	139	10,824	11	4,549	.....	.....	9,992	14,552	1,803	4,674	1,474	625	8,576
20	1,190	3,013	5	825	1,403	17	347	3,375	196	1,178	12,158	1,955	605	17	.....	4,501	7 078	2,101	2,853	.....	87	5,041
21	1,546	.....	72	358	2,400	.....	.	1,600	39	112	7,288	533	...	.	140	8,820	9,493	600	.....	.	.....	600
22	257	....	7	. ..	1,330	898	22,200	.....	1,586	81	27,863	1,680	635	6,773	.....	6,435	15,523	246	39,700	....	....	39,946
23	511		16	....	1,367	92	167	2,000	420	196	5,581	981	106	474	.....	1,494	3,055	1,333	6,523	600	114	8,570
24	1,066	222	334	290	1,566	.....	241	2,000	169	80	7,335	241	176	2,000	1,359	8,348	12,124	394	1,402	402	99	2,297
25	627	..	55	318	1,950	.....	500	.... ..	360	136	4,654	348	714	.....	.... .	6,800	7,862	....	5,500	....	.....	5,500
26	2,021	3,570	76	550	4,128	.....	2,214	.....	1,884	1,141	18,179	11,983	1,703	.....	37,100	4,054	54,840	.....	42,777	1,250	263	44,290
27	768	130	38	343	1,700	....	344	2,593	251	106	6,983	.....	478	.....	.....	7,672	8,150	.....	3,451	379	.....	3,830
28	764	....	9	190	1,539	...	154	1,000	209	211	5,747	34	.. ..	....	.....	4,355	4,389	247	3,178	....	....	3,425
29	5	159	55	.....	880	350	.....	. ..	168	190	2,006	47	1,191	350	.....	500	2,091	539	2,000	1,200	.....	3,739
30	785	10	58	396	2,000	.....	463	1,500	208	261	6,568	443	113	.....	.....	4,500	5,056	.....	3,300	200	.	3,500
31	1,329	.....	49	306	4,121	.....	500	500	792	995	10,220	4,318	253	.....	.....	8,100	12,671	.....	18,199	1,500	1,318	21,017
32	592	514	38	135	2,076	.....	.....	977	50	80	4,700	.....	298	.....	.....	979	1,277	.. ...	.....	1,108	508	1,616
33	1,107	.. .	49	191	380	.....	.....	.....	.....	40	2,028	399	110	500	.....	3,343	4,352	600	.....	.....	.....	600
34	396	.....	6	183	679	21	..	.....	1	75	1,705	889	218	730	.....	1,000	2,837	.....	.....	.....	.....	.....
35	922	....	80	248	2,034	.....	600	1,100	98	124	6,120	725	.....	.....	.....	406	1,131	.....	700	.....	.....	700

VILLAGE MUNICIPALITIES.—*Continued.*

No.	Village Municipalities.	County in which located.	Population, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.									Disbursements, 1898.			
					Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Licenses, fees, rents, fines, etc.	Water, gas and electric light rates	Refund and interest from S. F. and other investments.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.	Allowances, salaries and commission.	Lighting of streets, water supply and fire protection.	Other expenses of municipal government.	Administration of justice, including police protection.
				$	$	$ c.		$	$	$	$	$	$	$	$	$	$	$	$	$
36	Creemore	Simcoe	602	125,295	2,418	4 02	19.3	70	2,407	210	....	.....	.....	.....	135	2,822	131	113	90	10
37	Delhi	Norfolk	793	168,760	3,048	3 84	19.2	283	3,858	111	13	.....	200	.....	239	4,804	125	21	168	17
38	Drayton	Wellington	828	161,565	3,618	4 37	22.4	347	3,156	364	....	.....	1,500	.....	337	5,704	174	267	130	.....
39	Dundalk	Grey	642	127,517	2,422	3 77	19 0	43	2,585	238	....	....	.....	.....	20	2,886	182	54	86	46
40	Dunnville	Haldimand	2,090	627,800	14,240	6 81	22 7	.....	10,559	620	960	....	.....	.....	87	12,226	566	2,745	425	391
41	Dutton	Elgin	865	189,715	3,617	4 18	19.1	97	3,851	156	...	.....	950	... .	690	5,744	125	42	247	36
42	East Toronto	York	1,352	581,325	11,702	8 66	20.1	.....	12,324	200	1,045	7,991	13,500	7,500	10	42,570	1,027	1,183	698	109
43	Eganville	Renfrew	1,041	281,495	3,451	3 32	12.3	171	2,870	485	.....	.....	.....	.....	121	3,647	147	279	77	.....
44	Elmira	Waterloo	1,092	316,325	3,432	3 14	10 8	360	3,122	184	.....	15	.....	.....	5	3,686	218	177	70	49
45	Elora	Wellington	1,269	322,705	7,377	5 81	22.9	1,020	8,244	579	....	787	.....	5,660	593	16,883	351	542	270	391
46	Embro	Oxford	639	193,758	2,562	4 01	13 2	1,085	2,560	319	.....	.....	.....	.....	140	4,104	214	.....	130	31
47	Erin	Wellington	502	114,310	1,529	3 05	13 4	5	1,422	118	.....	.....	200	.....	14	1,759	126	39	57	1
48	Exeter	Huron	1,841	504,930	8,570	4 66	17.0	3,823	8,352	550	.....	32	1,700	2,300	188	16,915	618	1,463	246	291
49	Fenelon Falls	Victoria	1,283	200,437	4,810	3 75	24.0	218	5,555	329	....	146	303	.....	47	6,598	455	312	276	214
50	Fergus	Wellington	1,559	412,201	8,226	5 28	20.0	62	7,570	787	.....	2,633	1,447	4,045	761	17,305	563	757	282	400
51	Fort Erie	Welland	867	242,248	3,971	4 58	16.4	.....	4,029	457	.....	...	800	.....	156	5,452	247	16	409	73
52	Garden Island	Frontenac	309	55,200	1,528	4 94	27.7	....	1,489	.....	.....	....	.....	.....	...	1,489	25	.. ..	13	....
53	Georgetown	Halton	1,455	310,186	7,024	4 83	20.6	181	6,205	326	2,081	.....	2,478	.....	47	11,318	285	961	235	219
54	Glencoe	Middlesex	1,035	290,910	5,986	5 78	20.6	293	4,167	496	.....	. ...	6,650	5,000	288	16,894	232	479	206	17
55	Grand Valley	Dufferin	745	137,600	3,035	4 07	22.1	.....	2,398	9	.....	.....	200	.....	...	2,607	131	15	150	... .
56	Grimsby	Lincoln	995	224,135	4,565	4 59	20.4	....	4,371	125	.....	....	3,316	2,500	450	10,762	156	335	144	3
57	Hagersville	Haldimand	891	201,675	3,660	4 11	18.1	459	4,489	100	.....	.....	350	.....	.....	5,398	231	109	145	9
58	Hastings	Northumberland	826	169,845	4,039	4 89	23.8	455	3,499	370	. ....	.....	2,550	.....	.....	6,874	183	518	152	96
59	Havelock	Peterborough	1,080	146,225	3,080	2 85	21.1	62	2,866	359	.....	.....	900	.....	92	4,279	141	148	78	20
60	Hensall	Huron	876	206,410	3,367	3 84	16 3	415	2,994	145	.....	.....	500	.....	.....	4,054	95	116	96	....
61	Hespeler	Waterloo	2,519	571,545	8,283	3 29	14.5	221	7,797	197	.....	15	7,150	... .	154	15,534	688	928	301	6
62	Hintonburg	Carleton	2,278	390,683	9,207	4 04	23.6	6,781	7,658	63	.....	23	.....	7,000	1,003	22,528	848	842	934	139
63	Holland Land'g	York	426	70,200	1,031	2 42	14.7	181	1,067	58	....	.....	175	... .	.....	1,481	110	.....	33	13
64	Huntsville	Muskoka	1,808	263,054	8,788	4 86	33.4	381	8,050	572	2,916	. ..	12,000	6,000	67	29,986	589	2,876	627	65
65	Iroquois	Dundas	1,277	327,450	5,963	4 67	18.2	1,937	6,489	582	.....	..	700	.....	14	9,722	134	138	205	140
66	Kemptville	Grenville	1,430	315,175	6,938	4 85	22.0	822	7,677	538	...	267	5,350	10,000	111	24,765	226	341	505	16
67	Kingsville	Essex	1,285	393,936	6,979	5 43	17.7	912	10,132	265	7.119	.....	7,350	.... . .	204	25,982	925	721	546	21
68	Lakefield	Peterborough	1,118	318,300	4,382	3 92	13.8	223	4,507	508	.....	115	1,900	.....	89	7,342	382	634	424	190
69	Lanark	Lanark	818	182,045	4,004	4 89	22.0	473	4,156	250	.....	2	550	.....	12	5,443	336	187	157	156

No.	Disbursements, 1898.—*Continued.*											Assets on December 31, 1898.						Liabilities on December 31, 1898.				
	Streets, bridges and parks.	Construction of buildings, waterworks, etc.	Charities.	County levy.	Payment on account of schools and education.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Waterworks, gas and electric light plant.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans for current expenses.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
36	648	.....	12	285	976	.....	.....	.....	1	135	2,404	418	1,103	.....	.....	250	1,771	754	.....	.....	640	1,394
37	527	22	7	313	2,084	....	.....	200	8	707	4,139	665	579	....	.....	45	1,289	502	.....	.....	2,275	2,777
38	539	.....	226	278	1,330	88	410	1,500	183	469	5,594	110	623	88	.....	3,660	4,421	249	1,902	.....	100	2,251
39	460	.....	51	206	883	....	243	.....	104	450	2,765	121	439	.....	.....	530	1,090	464	1,397	...	1,884	3,745
40	1,711	.....	448	720	2,729	.....	721	.....	1,079	691	12,226	... ..	5,069	.....	13,000	9,812	27,881	4,420	10,556	4,775	694	20,445
41	873	...	31	369	1,751	.....	299	950	382	359	5,464	280	505	... ..	.. ...	5,578	6,363	.....	6,495	.....	.....	6,495
42	1,060	245	18	...	5,032	9,897	1,041	18,160	3,270	98	41,838	732	16,575	15,449	22,982	6,626	62,364	1,545	68,057	8,875	1,253	79,730
43	429	.....	.....	435	1,449	....	337	... .	85	64	3,302	345	482	... ..	.....	3,255	4,082	933	1,294	.....	.....	2,227
44	303	.....	25	384	1,439	.....	400	.....	420	106	3,591	95	....	500	.....	800	1,395	... ..	8,000	.....	.....	8,000
45	514	.....	8	588	3,777	30	7,079	.....	680	422	14,652	2,231	4,608	.....	.....	12,488	19,327	2,749	13,422	.....	.....	16,171
46	463	....	12	317	890	.....	135	.....	146	114	2,452	1,652	46	.....	.....	7,300	8,998	892	2,780	.....	20	3,692
47	219	.....	2	160	759	.....	.....	200	7	90	1,660	99	4	.....	.....	.....	103	.....	.....	.....	.....	.....
48	606	2,300	185	.....	2,756	366	759	1,700	805	415	12,510	4,435	115	366	1,000	11,490	17,406	3,502	17,495	.....	.....	20,997
49	797	.....	78	429	2,487	145	.....	550	321	495	6,559	39	3,108	3,145	.....	2,412	8,704	1,265	3,000	490	180	4,935
50	1,066	718	36	752	7,828	1,252	767	1,696	462	443	17,022	283	1,541	1,211	....	17,969	21,004	120	8,361	926	347	9,754
51	1,736	.....	91	224	1,250	.....	386	496	416	83	5,427	25	880	.....	.....	9,775	10,680	.....	7,942	1,560	73	9,515
52	29	.....	...	325	868	.....	.....	.....	...	229	1,489	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
53	904	.....	40	379	3,589	.....	200	1,500	2,606	400	11,318	.....	1,257	....	40,000	11,350	52,607	.... .	51,200	978	.....	52,178
54	861	4,040	2	.....	1,922	5,258	160	3,150	108	182	16,617	277	1,576	5,258	225	6,755	14,091	810	12,970	3,511	1,890	19,181
55	235	47	.....	121	1,066	.....	.....	200	4	60	2,029	578	50	.....	.....	121	749	....	.....	.....	3,313	3,313
56	1,555	.....	113	867	2,159	.....	820	3,352	412	846	10,762	.....	72	.. ..	.. ..	5,238	5,310	455	4,880	216	.....	5,551
57	883	..	9	234	2,606	.....	256	350	236	89	5,157	241	142	.....	.....	.....	383	44	4,267	....	45	4,356
58	98	1,640	206	206	1,219	.....	377	1,550	84	128	6,457	417	261	.....	.....	7,800	8,478	.....	758	2,500	....	3,258
59	1,235	.....	8	121	1,082	.....	.....	900	37	299	4,069	210	7	.....	.....	365	582	.....	.....	.....	1,719	1,719
60	618	630	3	165	1,273	.....	.....	500	4	214	3,714	340	70	.....	.....	400	810	.....	.....	.....	173	173
61	1,336	.....	15	690	2,952	.....	771	6,750	600	175	15,212	322	498	.....	.....	11,436	12,256	.....	8,730	1,400	242	10,372
62	848	804	17	.....	9,645	198	255	6,000	967	482	21,979	549	5,594	1,001	.....	5,225	12,369	2,963	18,245	.....	2,167	23,375
63	153	.....	19	126	512	.....	100	150	31	43	1,290	191	307	.....	.....	537	1,035	134	200	181	62	577
64	1,096	2,274	44	.....	2,046	.....	1,152	16,500	2,083	450	29,802	184	1,704	100	34,722	2,279	38,989	2,400	32,946	3,413	.....	38,759
65	848	574	69	403	2,952	.....	740	700	413	362	7,678	2,044	1,399	.....	.....	8,235	11,678	2,268	7,343	.....	141	9,752
66	6,582	.....	117	406	3,000	2,318	2,566	5,750	681	452	22,960	1,805	278	2,318	.... ..	13,558	17,959	1,402	16,554	375	186	18,517
67	662	1,515	53	334	1,613	.....	4,867	10,281	2,954	679	25,171	811	7,357	...	50,000	11,297	69,465	1,399	51,277	2,900	610	56,186
68	767	.....	62	459	1,494	397	.....	1,700	568	210	7,287	55	100	3,559	.....	9,800	13,514	462	10,000	....	200	10,662
69	375	754	56	300	1,829	.....	239	550	207	165	5,311	132	....	.....	....	7,346	7,478	.....	3,672	.....	.....	3,672

VILLAGE MUNICIPALITIES.—*Continued.*

No.	Village Municipalities.	County in which located.	Population, 1899.	Assessed value of real and personal property and income taxable. 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.									Disbursements. 1898.			
					Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and school taxes.	Licenses, fees, rents, fines, etc.	Water, gas and electric light rates.	Refund and interest from S. F. and other investments.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.	Allowances, salaries and commissions.	Lighting of streets, water supply and fire protection.	Other expenses of municipal government.	Administration of justice, including police service.
				$	$	$		$	$	$	$	$	$	$	$	$	$	$	$	$
70	Lancaster	Glengarry	524	77,920	1,723	3 29	22.1	.....	2,039	293	.....	....	.....	.....	23	2,355	100	233	51	.....
71	L'Orignal	Prescott	1,031	119,775	2,114	2 05	17.6	58	2,133	133	.....	.....	.....	.....	.....	2,324	170	.....	20	.....
72	Lucan	Middlesex	816	171,650	3,180	3 90	18.5	1,230	2,899	311	.....	205	200	.....	7	4,852	102	1	81	39
73	Lucknow	Bruce	1,102	275,615	6,072	5 51	22.0	2,018	5,500	545	.....	387	732	.....	22	9,204	369	1,486	171	110
74	Madoc	Hastings	1,300	311,259	5,729	4 41	18.4	.....	5,843	510	.....	25	4,009	.....	35	10,422	321	109	333	115
75	Markdale	Grey	820	175,570	2,332	2 84	13.3	116	2,595	227	.....	.....	425	.....	258	3,621	189	264	86	.....
76	Markham	York	1,004	226,375	6,518	6 49	28.8	1,072	5,541	221	.....	14	.....	.....	1,572	8,420	122	638	369	110
77	Maxville	Glengarry	672	56,250	1,398	2 08	24.9	35	1,111	2	.....	.....	.....	.....	.....	1,148	65	.....	46	....
78	Merrickville	Grenville	899	296,900	2,990	3 33	10.1	109	4,336	277	.....	.....	.....	.....	82	4,804	183	187	52	.....
79	Merritton	Lincoln	1,621	635,735	14,276	8 81	22.5	1,426	14,341	576	2,753	25	3,385	.....	101	22,607	801	1,756	674	328
80	Millbrook	Durham	922	187,485	3,169	3 44	16.9	351	3,316	824	.....	.....	275	.....	127	4,893	218	783	192	110
81	Milverton	Perth	623	130,120	2,263	3 63	17.4	638	2,219	190	.....	.....	200	.....	57	3,304	194	21	126	2
82	Morrisburg	Dundas	1,651	588,250	10,103	6 12	17.2	802	9,961	671	1,401	.....	1,000	.....	102	13,937	226	1,192	242	373
83	Newboro	Leeds	433	89,890	1,810	4 18	20.1	614	1,817	113	.....	22	.....	.....	42	2,608	75	.....	55	.....
84	Newburg	Lennox & Ad.	643	110,415	3,324	5 17	30.1	35	3,940	47	.....	56	500	.....	22	4,600	116	.....	78	17
85	Newbury	Middlesex	435	60,290	1,573	3 62	26.1	.....	1,363	168	.....	.....	425	.....	172	2,128	83	.....	98	25
86	Newcastle	Durham	527	191,790	3,841	7 29	20.0	873	3,245	111	.....	.....	300	.....	26	4,555	294	135	170	72
87	New Hamburg	Waterloo	1,250	348,553	5,228	4 18	15.0	1,733	3,527	342	.....	.....	1,200	.....	20	6,822	166	1,105	336	65
88	Niagara Falls, S	Welland	1,371	332,805	6,713	4 90	20.2	2,258	4,769	99	767	4	2,187	.....	.....	10,084	308	1,186	889	51
89	Norwich	Oxford	1,294	310,920	6,260	4 84	20.1	981	6,983	337	.....	2,782	2,433	1,226	628	15,370	305	707	251	316
90	Norwood	Peterborough	1,028	228,450	4,893	4 76	21.4	1	5,681	308	.....	157	300	.....	131	6,581	179	575	86	54
91	Oil Springs	Lambton	1,015	247,235	4,943	4 87	20.0	40	4,489	349	.....	.....	2,148	.....	169	7,495	401	13	189	166
92	Omemee	Victoria	532	106,403	2,209	4 15	20.8	160	1,832	212	.....	.....	860	.....	24	3,088	148	61	120	32
93	Ottawa, East	Carleton	1,074	225,984	3,108	2 89	13.8	268	2,338	153	.....	54	.....	.....	.....	2,813	124	.....	172	37
94	Paisley	Bruce	1,016	290,720	4,694	4 62	16.1	893	5,670	883	.....	.....	2,009	.....	52	9,507	247	722	371	206
95	Point Edward	Lambton	1,394	196,665	3,899	2 80	19.8	39	2,727	359	.....	.....	600	.....	.....	3,725	258	49	129	432
96	Port Carling	Muskoka	299	51,867	701	2 34	13.5	127	757	56	....	2	390	.....	39	1,371	67	....	153	15
97	Port Colborne	Welland	1,111	320,350	6,157	5 54	19.2	713	5,957	367	82	.....	1,500	16,000	244	24,863	451	199	606	....
98	Port Dalhousie	Lincoln	975	173,369	4,394	4 51	25.3	2,185	3,922	630	.....	.....	1,200	.....	1	7,968	211	18	161	355
99	Port Dover	Norfolk	1,104	260,480	5,278	4 78	20.3	456	6,015	160	.....	.....	500	.....	3	7,134	297	287	119	13
100	Port Elgin	Bruce	1,473	313,484	6,248	4 24	19.9	2,266	5,211	892	....	5,780	213	.....	247	14,609	158	382	345	404
101	Port Perry	Ontario	1,494	375,470	8,895	5 95	23.7	184	9,465	627	.....	.....	.....	.....	6	10,282	279	845	256	419
102	Port Rowan	Norfolk	618	114,075	2,813	4 55	24.7	.....	2,731	47	.....	.....	1,935	.....	21	4,734	123	320	93	.....
103	Port Stanley	Elgin	592	145,075	2,082	3 52	14.4	137	2,279	309	.....	.....	1,300	.....	.....	4,025	236	108	190	9

VILLAGE MUNICIPALITIES.—*Continued.*

No.	Disbursements, 1898.—*Continued.*											Assets on December 31, 1898.						Liabilities on December 31, 1898.				
	Streets, bridges, and parks.	Construction of buildings, waterworks, etc.	Charities.	County levy.	Payment on account of schools and education.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements	Balance on hand.	Taxes in arrears.	Sinking Funds and other investments and deposits.	Waterworks, gas and electric light plant.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid	Debentures outstanding.	Temporary loans for current expenses.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
70	184		26	104	1,291			243	13	79	2,324	31	524			815	1,370	407			56	463
71	345		7	252	1,403					24	2,221	103	487			590	99				45	144
72	390		8	147	1,197	477	800		504	55	3,801	1,051	369	3,051		3,672	8,143	153	9,000	200		9,353
73	591		24	316	1,657	1,711			1,120	289	7,874	1,330	3,040	13,012	10,000	5,800	33,182	262	19,500	4,076		23,838
74	773	3,162	50	702	2,656	331	381	16	849	624	10,422		5,401	6,189		6,350	17,940	627	12,451	8,449	4,047	25,574
75	980		40		500		322		249	688	3,318	303	307			3,452	4,062	750	4,661	425	374	6,210
76	541	1,555	21	391	1,338		1,341		1,027	39	7,492	928	965		12,500	4,156	18,519		19,603		133	19,736
77	142			164	622			100	5		1,144	4	224				228	55				55
78	830		11	363	1,787		600		300	96	4,409	395	2,676			5,030	8,101	340	5,400		262	6,002
79	4,961	886	510	1,089	3,057	157	2,150	2,700	3,314	224	22,607		692	445	73,360	13,526	88,023		62,976	685	55	63,715
80	395		18	234	958		232	1,250	268	150	4,808	85	2,371			7,948	10,404	1,308	3,939		279	5,526
81	567		3	185	1,204		189	200	258	18	2,967	337	26			20	383		5,590			5,590
82	909	615	202	709	4,811		1,560	1,000	1,598	90	13,467	470	108		30,200	3,506	34,284		29,584		55	29,639
83	290		2	116	818	242	123		286	28	2,035	573	207	2,312		1,285	4,377		5,454			5,454
84	283		61	319	1,974	1,286			331	23	4,488	112	3,795	2,286		100	6,293	1,951	5,000	500	460	7,911
85	293	50	6	126			490	545	132	41	1,799	329	500			1,728	2,557	560	1,400			1,960
86	385	14	54	220	2,000		159	360	105	64	3,972	583				3,135	3,718		1,841			1,841
87	336	543		452			822	1,200	526	880	6,431	591	2,468	3,500		10,297	16,656	2,258	8,093		1,334	11,685
88	1,517	133	118	370	1,760		699	2,000	768	285	10,084		3,867		11,000	1,596	16,453		12,575	1,187	1,862	15,624
89	1,704	2,597	18	505	1,592	1,906	569	2,000	755	110	13,335	2,035	619	2,571		6,477	11,702		16,222	433		16,655
90	633	84	27	886	1,775	318	121	900	641	101	6,380	201	311	4,205		5,541	10,258		10,099		266	10,355
91	852		3	214	1,581		1,859	1,000	929	288	7,495		3,778			4,232	8,010	170	13,588	2,000	448	16,206
92	427		7	227	989			860	29	52	2,952	136	182			900	1,218					
93	670			189	900		187		183	22	2,484	329	1,925	500		3,650	6,404	645	4,650		230	5,525
94	1,298		16	340	1,465		491	2,009	181	254	7,603	1,904	153		9,900	8,000	19,957		2,238			2,238
95	210		2	337	2,050					88	3,555	170	2,156		2,000	1,575	5,901	1,100		625		1,725
96	317				300			140	10	221	1,223	148	489			347	984	217		250	879	1,346
97	688	17,215		429	1,882		285		541	103	22,399	2,464			19,250	1,740	23,454		15,715	1,500		17,215
98	857	38	50	604	1,828		341	1,700	369	13	6,545	1,423	1,510			900	3,833	1,815	6,335		266	8,416
99	1,144		46	513	2,326		643	500	380	136	6,404	730	482			4,500	5,712	760	7,524			8,284
100	942	311	181	357	2,800	6,120	1,449		882	278	14,609		1,944	2,200	800	6,200	11,144		16,776	213	44	17,033
101	458		101	498	3,629		1,362	200	1,704	56	9,807	475	2,473			13,585	16,533		36,328	3,475	20	39,823
102	420		45	250	871		128	1,739	88	474	4,651	183	227			29	439		576	385	2,768	3,729
103	531		7	145	767			1,750	67	58	3,868	157	741			1,600	2,498	157		50	394	601

VILLAGE MUNICIPALITIES.—*Concluded.*

No.	Village Municipalities.	County in which located.	Population, 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899			Receipts, 1898.								Disbursements, 1898.			
					Total.	Per head.	Mills on $.	Balance from 1897.	Municipal and School taxes.	Licenses, fees, rents, fines, etc.	Water, gas and electric light rates.	Refunds from Sinking Funds and other investments.	Borrowed for current expenses.	Borrowed on debentures.	Miscellaneous.	Total receipts.	Allowances, salaries and commissions.	Lighting of streets, water supply and fire protection.	Other expenses of municipal government.	Administration of justice, including service.
				$	$	$		$	$	$	$	$	$	$	$	$	$	$	$	$
104	Portsmouth	Frontenac	694	120,100	2,486	3 58	20.7	16	3,330	70	.....	.....	35	.....	85	3,536	219	.....	51	86
105	Preston	Waterloo	2,221	626,930	10,579	4 76	16.9	1,503	9,462	445	.....	3,975	4,000	5,850	711	25,946	465	1,557	366	198
106	Richmond	Carleton	455	72,625	2,222	4 88	30.6	276	1,498	55	.....	140	620	.....	17	2,605	160	....	70	12
107	Richmond Hill	York	608	154,725	2,505	4 12	16.2	212	2,491	403	.....	807	500	.....	220	4,633	530	249	203	9
108	Rockland	Russell	1,681	76,300	4,135	2 46	54.2	129	3,933	233	.....	.....	300	.....	4	4,599	130	.....	62	...
109	Shelburne	Dufferin	1,136	352,200	5,799	5 10	16.5	25	7,759	701	.....	.....	3,500	.....	265	12,250	286	570	254	337
110	Southampton	Bruce	1,661	261,147	5,563	3 34	21.3	1,232	5,198	654	.....	46	.....	.....	124	7,254	272	676	198	10
111	Springfield	Elgin	459	91,910	1,654	3 60	18.0	224	1,400	110	.....	.....	384	.....	175	2,293	109	31	140	27
112	Stirling	Hastings	807	168,338	4,075	5 05	24.2	805	3,964	143	..	6	250	.....	670	5,838	239	12	92	....
113	Stouffville	York	1,270	324,775	4,748	3 74	14.6	....	4,904	129	321	452	.....	25,000	887	31,693	312	597	167	5
114	Streetsville	Peel	574	158,520	2,572	4 48	16.2	471	2,231	162	.....	.....	180	.....	3	3,017	319	152	78	24
115	Sturgeon Point	Victoria	7	18,500	370	52 86	20.0	....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
116	Sundridge	Parry Sound	460	65,325	1,937	4 21	29.7	257	1,593	75	.....	.....	882	.....	88	2,895	181	....	260	26
117	Sutton	York	600	131,425	1,620	2 70	12.3	300	1,660	132	.....	..	.....	.....	.....	2,092	92	58	92	10
118	Tara	Bruce	728	215,775	2,801	3 85	13.0	612	2,483	221	.....	653	.....	.....	169	4,138	135	..	179	36
119	Teeswater	Bruce	925	241,650	4,133	4 47	17.1	1,841	4,231	443	.....	313	300	.....	220	7,348	175	953	90	35
120	Thamesville	Kent	842	207,875	4,818	5 76	23.3	1,097	6,700	205	.. ..	....	1,000	.....	2	9,004	280	596	246	168
121	Thedford	Lambton	597	94,425	1,643	2 75	17.4	37	1,646	48	.....	.....	750	.....	..	2,481	95	31	68	10
122	Tilbury	Kent	1,046	198,298	5,865	5 61	29.6	855	5,072	199	1,232	538	6,116	170	247	14,429	413	1,966	312	12
123	Tiverton	Bruce	465	76,080	1,551	3 34	20.4	287	1,925	158	.....	... .	. .....	.....	.....	2,370	134	.....	89	12
124	Tottenham	Simcoe	571	122,695	2,436	4 27	19.9	178	2,282	230	.....	.....	.....	.....	140	2,830	140	113	111	10
125	Tweed	Hastings	1,013	225,910	3,962	3 91	17.5	777	3,810	276	.....	.....	.....	7,000	127	12,020	226	114	143	18
126	Vienna	Elgin	365	79,973	1,775	4 86	22.2	238	1,449	71	....	6	230	.....	4	1,998	134	.. .	64	7
127	Wardsville	Middlesex	309	59,160	1,220	3 95	20.6	11	1,173	138	.. ...	.....	.....	.....	.....	1,322	109	.....	74	3
128	Waterdown	Wentworth	662	173,250	1,736	2 62	10.0	426	1,476	136	. ..	.....	.....	.....	5	2,043	161	5	96	11
129	Waterford	Norfolk	1,142	263,900	6,656	5 84	25.3	393	6,273	197	....	..	1,019	.....	233	8,115	311	368	147	25
130	Watford	Lambton	1,350	247,290	6,297	4 66	25.5	611	5,583	568	.....	400	3,000	. . ..	33	10,195	429	352	219	114
131	Wellington	Prince Edward	610	197,400	1,788	2 93	9.1	591	1,704	159	.....	.....	1,500	2,000	110	6,064	148	24	270	5
132	Weston	York	893	275,260	4,461	5 00	16.2	1,177	4,534	308	.....	7	.....	.....	442	6,468	320	.....	463	15
133	Winchester	Dundas	1,055	224,025	4 257	4 04	19.0	485	4,766	416	... .	....	1,925	... .	461	8,053	105	5	182	28
134	Woodbridge	York	654	108,275	1,682	2 57	15.5	651	1,704	136	. .	485	....	.....	177	3,153	168	...	88	7
135	Woodville	Victoria	534	84,120	1,059	1 98	12.6	130	1,221	176	.....	...	300	.....	63	1,890	124	12	94	3
136	Wroxeter	Huron	444	107,401	1,077	2 43	10.0	240	1,466	179	....	1,122	225	... .	83	3,315	183	....	33	2
137	Wyoming	Lambton	767	129,360	2,845	3 71	22.0	362	3,116	429	.....	.....	880	849	231	5,867	259	62	103	2

No.	Disbursements, 1898.—*Continued.*										Assets on December 31, 1898.						Liabilities on December 31, 1898.				
	Streets, bridges and parks.	Construction of buildings, water-works, etc.	Charities.	County levy.	Payment on account of schools and education.	Sinking Fund and other investments and deposits.	Debentures redeemed.	Current loans repaid.	Interest on loans, advances and debentures.	Miscellaneous.	Total disbursements.	Balance on hand.	Taxes in arrear.	Sinking Funds and other investments and deposits.	Waterworks, gas and electric light plant.	Miscellaneous.	Total assets.	County levy and school rates due and unpaid.	Debentures outstanding.	Temporary loans for current expenses.	Miscellaneous.	Total liabilities.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
104	458	109		575	1,113			200	3	21	2,835	701	1,639			3,169	5,449	1,521		35	71	1,627
105	1,989	2,061	128	906	7,331	48	4,658	4,000	1,466	592	25,765	181	37	6,000		11,876	18 094	2,027	27,636			29,663
106	502	755		100	536	96	88		263	23	2,605		1,534	780		2,400	4,711	964	3,412	620		4,996
107	455		3	289	1,833	3	49	500	144	107	4,374	259	116	63		4,394	4,833		2,951			2,951
108	569		87	200	2,685			530	13	103	4,379	220	2,545			1,000	3,765	1,658		318	647	2,623
109	1,856	82	18	1,056	2,230		1,360	2,500	774	664	11,987	263	1,849		12,438	12,735	27,285	600	13,370	1,000	742	15,712
110	1,514		138	228	2,045		491		487	194	6,253	1,001	2,720			6,700	10,421		9 122			9,122
111	742	150	8	281	455			300	9	41	2,293		210			1,220	1,430			81	151	235
112	594		152	595	3,075	206	300		238	214	5,717	121	1,679	506		3,125	5,431	2,017	4,000	256		6,273
113	259	25, 117	12	468	1,621		750	521	1,126	76	31,031	662	405		21,636	1,319	27,022		25,899		36	25,935
114	524		5	143	916			150	2	109	2,452	565	148			1,465	2,178	360			85	445
115																						
116	130		15		646	332		350	350	552	2,842	53	1,586	5,332		245	7,216	568	5,000	1,832		7,400
117	355		10	198	688					227	1,730	362	57			47	466				187	187
118	421		13	205	1,076	164	500	300	514	37	5,998	1,350	265	2,431	8,873	7,061	19,980		10,500			10,500
119	946		67	248	1,877	756			126	704	3,559	579		1,714		485	2,778		1,600			1,600
120	1,031		50	254	1,600		657	1,000	298	210	6,390	2,614	68		1,000	8,800	12,482	1,600	5,495		227	7,322
121	473			119	752			850	29	43	2,470	11	5			82	98			200		200
122	1,801	104	155	229	1,514	224	1,787	4,369	1,283	243	14,415	14	5,322	372	16,969	5,176	27,852	1,035	22,823	3,885	567	28,310
123	236			112	650			600	186	47	2,066	304	420	1,500		2 00	4,224		3,60			3,000
124	370		26	177	1,000		295		198	87	2 527	303	55			3,400	3,758		3,772			3,772
125	508		41	451	8,214		246		386	9	10,359	1,661	1,888	5,000		4,000	12,549	1,879	13,784		138	15,801
126	365		5	114	672	91		230	157		1,839	159	887	273		1,550	2,869	270	3,000		25	3,295
127	324				645					37	1,192	130	431			900	1,461	561			12	573
128	259		39	135	749					46	1,501	512	654			900	2,096					
129	1,126		61	674	2,022		1,425	1,000	682	271	8,115					1,000	1,000		12,050	19		12,069
130	727		17	273	2,260	400	1,034	3,033	714	192	9 764	431	84	200		6,579	7,294		13 006			13,006
131	2,704	265	125		738		125	1,300	65	106	5,875	189	211		267	1,080	1,777	227	2,125	1,050	31	3,433
132	335		152	474	1,952		555		596	215	5,077	1,391	840			4,500	6,731	1,231	11,289		26	12,546
133	913		4	193	1,516		730	3,400	679	155	7,910	143	3			4 491	4,640		10,264	842	648	11,754
134	503		7	187	753	350			225	43	2,331	822	383	3,554		3,154	7,913		6,668	854	114	7,636
135	668		31	205	254			300	5	122	1.818	72	20			950	1.228	201			358	559
136	176	225	5	88	529	1,422		75	240	65	3,013	272	4	3,199		4,389	7,864		4,000	150		4,150
137	744		23	161	1,545		400	880	51	925	5,158	709	54			1,500	2,263		849			849

CITY MUNICIPALITIES.

POPULATION, AREA, ASSESSMENT AND TAXATION—1899.

RECEIPTS, DISBURSEMENTS, ASSETS AND LIABILITIES.—1898.

TABLE IV. Showing for the *City* municipalities of Ontario, the population, area, assessed value and amount of taxes imposed for all purposes, inclusive of schools, as shown by the assessment and collection rolls for 1899; also a summary statement of the receipts, disbursements, assets and liabilities for the year ending December 31, 1898.

No.	City Municipalities.	County in which located.	Population in 1899.	Assessed value of real and personal property and income taxable, 1899.	Taxes imposed for all purposes, 1899.			Receipts, 1898.						Disbursements, 1898.		
					Total.	Per head.	Mills on $.	Municipal and school taxes.	Licenses, fees, rent, fines; water and electric light rates, etc.	Refunds from Sinking Funds and other investments; interest and dividends.	Current loans and debentures.	Miscellaneous, including balances from 1897	Total.	Lighting of streets, water supply and fire protection.	Salaries of officers, and other expenses of civic government.	Administration of justice, police service, etc.
				$	$	$ c		$	$	$	$	$	$	$	$	$
1	Belleville.....	Hastings..	10,242	3,843,576	93,226	9 10	24.3	79,103	7,231	8,350	88,000	1,350	184,034	18,648	10,430	9,874
2	Brantford.....	Brant.....	16,215	7,112,255	134,532	8 30	18.9	131,414	37,471	98,258	80,294	10,487	357,924	41,156	13,778	7,003
3	Chatham	Kent	8,937	3,539,498	95,445	10 68	27.0	85,302	19,652	1,713	48,501	9,194	164,362	21,553	8,895	6,032
4	Guelph.....	Wellington	10,822	3,801,330	97,259	8 99	25.6	95,846	19,839	7,865	9,711	12,782	146,043	18,384	7,152	7,908
5	Hamilton	Wentworth	51,561	27,326,900	542,086	10.51	19.8	547,036	224,837	26,865	130,370	34,372	963,480	117,942	49,127	60,705
6	Kingston.....	Frontenac.	18,067	7,828,209	153,739	8 51	19.6	136,018	43,711	4,052	109,771	9,010	302,562	30,787	15,385	15,936
7	London	Middlesex.	38,902	17,084,427	415,579	10 68	24.3	379,713	93,462	255,017	743,630	45,481	1,517,303	63,140	43,949	38,714
8	Ottawa.....	Carleton ..	57,002	23,704,890	530,934	9 31	22.4	483,886	214,049	86,265	606,392	77,677	1,468,269	146,878	44,720	44,587
9	St. Catharines..	Lincoln ...	10,309	4,433,545	133,893	12 99	30.2	94,205	32,722	9,861	160,411	8,013	305,212	29,586	8,558	5,653
10	St. Thomas....	Elgin	11,715	4,493,703	*111,740	9 54	24.9	103,376	23,027	7,037	238,162	11,282	382,884	25,773	6,648	7,840
11	Stratford.....	Perth	10,422	4,054,850	94,478	9 07	23.3	82,432	3,600	31,923	169,747	14,609	302,311	13,618	7,261	4,833
12	Toronto.....	York.....	193,246	127,289,162	2,671,978	13 83	21.0	2,698,871	828,675	1,405,043	2,695,686	704,125	8,332,400	520,895	202,648	309,464
13	Windsor	Essex	11,436	5,313,025	147,068	12 86	27.7	161,607	39,493	11,299	137,926	3,601	353,926	31,080	9,381	7,649

NOTE.—For further details see Table VII., pages 70 and 71. * Estimated, as the official return was not received.

CITY MUNICIPALITIES.—*Continued.*

POPULATION, AREA, ASSESSMENT AND TAXATION—1899.

RECEIPTS, DISBURSEMENTS, ASSETS AND LIABILITIES—1898.

TABLE IV. Showing for the *City* municipalities of Ontario, the population, area, assessed value and amount of taxes imposed for all purposes, inclusive of schools, as shown by the assessment and collection rolls for 1899; also a summary statement of the receipts, disbursements, assets and liabilities for the year ending December 31, 1898.

No.	Disbursements, 1898.—*Continued.*						Assets, December 31, 1898.					Liabilities, December 31, 1898.			
	Streets, bridges, parks, buildings; waterworks and electric light plant.	Payments on account of schools and education.	Sinking Funds and other investments and deposits.	Repayment of debentures, temporary loans and interest.	Miscellaneous, including Board of Health expenses, charities, etc.	Total.	Taxes in arrears.	Sinking Funds, other investments and deposits.	Waterworks, electric and other light plants.	Miscellaneous, including balances on hand.	Total.	Debentures outstanding.	Temporary loans.	Miscellaneous.	Total.
	$	$	$	$	$	$	$	$	$	$	$	$	$	$	$
1	13,168	18,224	6,594	97,005	2,468	176,411	63,577	54,772	.....	136,050	254,399	447,164	65i000	280	512,444
2	53,251	50,429	76,281	88,897	21,703	352,498	3,514	271,617	257,819	460,310	993,260	926,214	30,897	32,102	989,213
3	48,908	19,005	....	47,687	7,115	159,195	26,600	1,103	187,000	209,320	424,023	571,971	107,874	3,271	683,116
4	14,355	23,600	18,974	42,506	7,124	140,003	13,356	324,839	144,950	192,922	676,067	601,817	20,000	5,659	627,476
5	156,374	113,359	50,439	332,170	79,116	959,232	363,083	313,431	1,725,287	1,802,283	4,204,084	3,573,791	123,516	14,850	3,712,157
6	23,108	35,200	5,820	111,357	48,290	285,883	64,140	50,012	335,749	380,971	830,872	975,525	33,665	21,957	1,031,147
7	207,570	114,774	273,371	695,456	34,253	1,471,227	48,960	1,292,956	780,393	627,560	2,749,869	2,781,051	17,245	232,944	3,031,240
8	245,129	150,978	134,534	675,004	26,439	1,468,269	573,400	1,295,287	2,000,000	1,280,329	5,149,016	4,301,642	547,940	173,231	5,022,813
9	29,078	22,215	10,722	186,597	10,468	302,877	34,997	196,000	385,059	297,971	914,027	868,296	43,909	4,490	915,795
10	57,573	59,584	6,781	196,379	8,174	368,752	16,751	85,210	150,000	204,706	456,667	566,769	12,500	11,693	590,962
11	38,720	21,870	66,552	138,553	10,857	302,264	30,754	98,468	....	65,109	194,331	452,637	36 031	1,300	489,968
12	1,164,941	598,024	1,624,068	2,924,620	281,697	7,626,357	909,272	5,640,563	4,349,385	12,969,891	23,869,111	21,603,473	1,126,388	1,124,112	23,853,973
13	11,180	31,724	38,129	212,824	11,111	353,078	46,319	225,857	275,000	255,863	803,039	836,178	48,033	794	885,005

FINANCIAL STATEMENT.—

TABLE V.—Showing abstract statement of Receipts, Disbursements, Assets and Liabilities

Counties.	Receipts.											
	Balance from 1897.	Rates from local municipalities.	Licenses.	Fees, rents, tolls, fines, etc.	Surplus fees from Registrar.	Interest and dividends.	From Legislature for schools.	From Legislature for Administration of Justice.	Refund of moneys loaned or invested.	Money borrowed for current expenses.	Money borrowed on debentures.	Non-resident taxes collected.
	$	$	$	$	$	$	$	$	$	$	$	$
1 Brant	9,294	13,070	165	151	12	152	1,961	2,285	....	.....	.....	1,055
2 Bruce	8,906	29,249	940	268	930	238	5,059	1,760	15,000	21,000	20,000	2,669
3 Carleton	.....	17,358	333	150	386	1,596	3,640	6,761	.....	5,952	.....	2,539
4 Dufferin	547	13,646	252	151	56	496	2,581	2,345	.....	3,230	.....	1,250
5 Elgin	11,235	39,054	376	6	257	421	3,708	5,122	.....	33,000	.....	900
6 Essex	4,444	23,190	160	140	1,306	50	3,656	7,620	.....	14,000	.....	6,384
7 Frontenac	3,867	26,586	184	3,626	.....	509	2,979	2,604	.....	14,743	.....	3,854
8 Grey	1	28,278	560	97	282	601	7,643	2,740	2,656	.....	.....	2,127
9 Haldimand	754	16,653	140	53	....	.....	1,904	3,257	.....	3,166	.....	492
10 Haliburton	328	3,948	41	101	.....	.....	3,475	150	.....	6,000	.....	232
11 Halton	4,907	9,603	208	11	.....	54	1,790	1,540	.....	3,500	.....	128
12 Hastings	442	38,785	436	302	661	3,203	4,551	3,806	36,124	41,906	.....	1,853
13 Huron	3,528	41,212	977	44	958	535	6,703	3,246	.....	5,091	.....	782
14 Kent	8,218	43,518	330	387	832	92	3,953	4,240	12,000	43,000	20,000	4,457
15 Lambton	5,094	27,482	211	2	1,247	252	4,756	3,721	.....	10,000	.....	7,120
16 Lanark	4,722	16,563	152	.....	.....	10	3,377	1,955	.....	7,500	.....	327
17 Leeds and Grenville	.....	25,758	252	36	.....	581	4,773	3,255	10,798	19,572	.....	312
18 Lennox and Addington	5,181	26,880	378	375	.....	244	2,731	2,110	.....	.....	.....	30
19 Lincoln	3,867	24,708	365	4	117	154	1,716	3,924	.....	.....	.....	339
20 Middlesex	38,416	58,703	240	39	144	5,984	5,918	6,876	4,321	.....	.....	1,216
21 Norfolk	1,636	24,094	94	127	.....	88	2,781	1,809	.....	23,988	.....	1,315
22 Northumberland and Durham	18,879	32,888	750	18	8	104	5,917	4,892	.....	14,000	20,000	739
23 Ontario	10,131	27,291	377	44	33	.....	4,221	4,720	.....	45,000	.....	1,029
24 Oxford	17,952	46,409	481	236	541	307	4,072	3,478	.....	.....	.....	473
25 Peel	4,906	17,797	210	28	.....	39	2,362	3,559	.....	19,000	8,000	45
26 Perth	6,633	39,658	486	.....	3	22	3,751	2,869	.....	8,500	.....	155
27 Peterborough	.....	17,176	334	229	29	227	2,881	2,444	90	8,983	.....	1,991
28 Prescott and Russell	490	16,220	288	80	24	113	2,502	2,244	.....	13,634	.....	4,572
29 Prince Edward	.....	21,905	190	7	.....	38	1,803	2,506	.....	.....	.....	70
30 Renfrew	3,148	17,934	477	38	82	144	5,651	3,493	.....	.....	.....	415
31 Simcoe	14,141	51,299	758	580	1,723	92	7,339	3,973	4,000	79,488	50,000	3,308
32 Stormont, Dundas and Glengarry	770	23,560	1,227	134	.....	100	6,100	2,982	.....	6,000	b1,863	526
33 Victoria	2,078	23,389	494	330	.....	.....	3,775	2,087	.....	12,500	.....	1,104
34 Waterloo	710	34,513	260	30	360	12	2,885	3,948	.....	27,500	.....	17
35 Welland	425	26,690	154	53	265	.....	2,402	2,191	.....	10,941	.....	1,286
36 Wellington	8,924	48,990	380	207	47	136	4,482	4,512	.....	21,000	.....	465
37 Wentworth	23,292	15,000	159	2,813	654	881	3,045	5,032	3,885	....	.....	359
38 York	.....	38,867	408	676	.....	.....	5,175	20,620	6,321	35,033	.....	17,185

b Including $603 for adjustment of interest on deferred debenture payments.

COUNTY MUNICIPALITIES.

of the county municipalities of Ontario for the year ending December 31, 1898.

Receipts.—*Continued.*			Disbursements.									
			Expenses of municipal government.						Construction.			
Towns or cities separated from County, for various services.	Miscellaneous.	Total.	Attendance at meetings of council and committees.	Allowances, salaries and commissions.	Printing, advertising, postage and stationery.	Insurance, heating, lighting and care of buildings.	Law costs (including salaries).	Other expenses.	Roads and bridges.	Grants to local municipalities for roads and bridges.	Buildings and other works.	No.
$	$	$	$	$	$	$	$	$	$	$	$	
3,318	16	31,479	585	1,403	553	781	215	183	546	168	176	1
.....	2,049	108,068	2,180	2,263	1,480	1,464	270	942	6,185	975	21,839	2
8,000	1,916	48,631	1,350	2,463	608	212	911	125	3,283	50	221	3
.....	541	25,095	308	1,227	268	403	30	476	180	.....	.....	4
2,950	*7,447	104,476	874	2,434	504	991	123	409	6,617	.....	6,298	5
....	761	61,711	579	2,460	996	596	100	886	6,324	.....	.....	6
5,859	348	65,159	575	1,620	316	1,256	115	407	1,649	.....	.....	7
.....	1,565	45,950	1,183	1,980	523	1,381	25	460	720	2,729	431	8
.....	246	26,665	570	950	341	608	100	99	379	.....	.....	9
. .....	163	14,438	265	668	253	44	.....	.....	58	.....	.....	10
.....	75	21,816	154	1,124	561	449	.....	63	320	.....	.....	11
4.360	189	136,618	1,495	3,310	864	311	115	174	14,777	4,461	.....	12
.....	433	63,509	938	2,429	919	777	.....	372	7,075	.....	1,040	13
2,301	3,069	146,397	2,175	2,185	644	1,390	1,116	285	1,564	100	18,819	14
.....	2,469	62,354	957	2,125	576	995	319	631	819	.....	1,151	15
.....	337	34,943	772	1,677	666	1,157	2	26	290	.....	.....	16
3,561	957	69,855	1,557	2,962	956	1,456	19	1,173	923	.....	§17,985	17
.....	34	37,963	560	960	661	908	2	60	696	.....	.....	18
3,228	973	39,395	787	1,230	301	1,907	175	1.326	2,995	10	.....	19
5,411	1,965	129,233	1,105	2,976	577	321	290	412	9,582	*281	868	20
.....	552	56,484	1,022	1,410	675	762	.....	415	295	.....	7,927	21
.....	745	98,940	2,460	2,284	1,043	422	1,114	2,279	1,334	330	160	22
.....	271	93,117	511	2,110	722	526	.....	135	1,220	.....	137	23
.....	1,634	75,583	1,494	3,021	663	296	77	298	3,967	300	1,304	24
.....	2,593	58,539	492	1,238	660	693	226	175	880	.....	18,409	25
1,691	1,494	65,262	636	1,710	231	514	364	248	250	3,996	.... .	26
2,025	1,839	38,248	792	1,680	725	877	.....	137	7,304	700	75	27
.....	982	41,149	615	851	1,024	493	.....	....	1,735	.....	.....	28
.....	28	26,547	97	620	397	701	15	. ...	.....	.....	.....	29
.....	160	31,542	579	1,200	721	1,119	15	414	188	.....	775	30
.....	¶9,873	226,574	3,081	2,985	948	1,099	1,086	794	3,554	.....	33,391	31
139	60	43,461	724	1,800	578	743	.....	49	412	.....	.....	32
400	364	46,521	886	2,380	797	502	14	159	1,029	200	458	33
.. ....	180	70,415	954	1,250	902	1,475	14	369	1,888	.....	760	34
1,553	1,280	47,240	547	1,315	241	833	9	298	326	50	121	35
3,896	. 376	93,415	845	2,012	382	660	131	568	13,609	3,427	1,669	36
6,524	523	62,217	1,828	2,490	413	*2,195	.....	.....	23,952	.....	.....	37
23,959	11,412	159,656	2,402	2,810	1,187	2,320	815	4,978	9,566	475	1,321	38

* Including $5,509 insurance on county buildings.
§ For jail improvement.
¶ Including $5,295 from Sandford estate and $3,200 for premiums on debentures sold.

FINANCIAL STATEMENT.—

No.	Counties.	Disbursements.—*Continued.*										
		Support of the poor and other charities.	Administration of Justice, gaol maintenance, etc.	Grants to schools and other payments on education.	Sinking funds and other investments, special deposits, etc.	Debentures redeemed	Interest paid on debentures.	Refund of money borrowed for current expenses.	Interest or discount on loans and advances.	Non-resident taxes paid local municipalities.	Miscellaneous.	Total.
		$	$	$	$	$	$	$	$	$	$	$
1	Brant	603	8,975	3,525		1,842	541			1,055	498	21,649
2	Bruce	514	8,813	14,376	13,000			21,000	330	2,673	2,910	101,219
3	Carleton	2,345	20,566	5,757	2,614		3,150	324	185	2,539	1,928	48,631
4	Dufferin	120	8,137	5,657	643	2,400	1,170	1,500	66	1,920	436	24,941
5	Elgin	4,276	11,983	9,775		1,315	628	35,500	887	941	1,116	84,671
6	Essex	284	13,724	10,263		895	1,018	11,000	586	7,253	2,683	59,647
7	Frontenac	350	8,881	6,013		23,000	14,236	3,000	907	2,656	65	65,046
8	Grey	766	15,781	14,027	1,800		1,100		4	1,760	1,280	45,950
9	Haldimand	211	10,345	9,719				1,550	659	512	379	26,422
10	Haliburton	10	737	4,219			120	6,500	110	232	29	13,245
11	Halton	12	6,006	5,306				3,500	68	128	425	18,107
12	Hastings	629	15,428	10,061	19,678	20,635	4,210	36,667	1,377	2,033	335	136,560
13	Huron	4,295	10,086	14,794	5,091		2,934	11,000	20	417	728	62,915
14	Kent	294	14,770	8,381	12,000	18,279	1,805	51,000	636	5,059	1,030	141,532
15	Lambton	3,227	9,917	15,232		581	596	10,000	54	6,990	2,003	56,173
16	Lanark	1,012	7,730	10,163				7,500	192	327	2,326	33,840
17	Leeds and Grenville	4,242	10,307	13,197	1,981		2,050	9,164	725	279	756	69,732
18	Lennox and Addington	368	7,527	8,081		5,200	5,658		4		91	30,776
19	Lincoln	4,696	8,872	5,987		3,092	612	1,500	452	403	253	34,598
20	Middlesex	8,919	19,508	15,511	2	25,000	24,824			1,183	449	111,803
21	Norfolk	5,079	7,489	9,173				20,000	504	1,315	418	56,484
22	Northumberland and Durham	1,154	13,180	15,140	2,000		386	49,000	1,298		524	94,108
23	Ontario	101	8,845	10,499		1,181	839	48,000	392	914	490	76,622
24	Oxford	4,960	13,219	8,757		6,090	5,315			312	421	50,494
25	Peel	245	11,241	6,199		1,477	240	15,000	270	36	978	58,459
26	Perth	4,818	10,331	8,588		750	9,200	7,000	77	110	664	49,487
27	Peterborough	110	9,889	3,239	983	939	1,279	5,101	357	1,443	1,258	36,888
28	Prescott and Russell	41	5,586	7,100				16,007	1,347	4,572	1,015	40,386
29	Prince Edward	166	5,484	4,744		5,000	750	3,672	204	70	66	21,986
30	Renfrew	616	7,959	9,813	794	1,969	1,871			327	223	28,583
31	Simcoe	1,394	18,284	15,905		10,000	1,960	110,363	1,283	3,342	‖8,434	222,903
32	Stormont, Dundas and Glengarry	485	9,240	16,930		4,946	*c*1,673	2,000	303	526	1,022	41,431
33	Victoria	389	9,416	8,497				17,000	768	1,440	1,426	45,361
34	Waterloo	7,197	8,128	8,640		1,164	1,044	34,500	638	17	417	69,357
35	Welland	4,279	9,060	8,175		1,762	181	16,489	317	1,286	331	45,620
36	Wellington	8,865	12,234	10,522				23,000	311	367	2,926	81,528
37	Wentworth	800	17,165	6,159	3,866		660		309	391	1,989	62,217
38	York	9,623	52,211	13,091		4,397	1,864	35,700	1,271	11,515	4,110	159,656

‖ Including $6,920 refunded to local municipalities for over-collections on levy for railways.
c See note *b* under "Receipts."

COUNTY MUNICIPALITIES.—*Continued.*

Assets.						Liabilities.							
Cash in treasury.	Rates due from local municipalities.	Sinking Fund and other investments in stocks, mortgages, debentures, etc., special deposits, etc.	Land, buildings, furniture, etc.	Miscellaneous.	Total.	School grants unpaid.	Railway debentures outstanding (principal).	All other debentures outstanding (principal).	Loans for current expenses and interest due on same.	Local municipalities for non-resident taxes collected.	Miscellaneous.	Total.	No.
$	$	$	$	$	$	$	$	$	$	$	$	$	
9,830	.....	.....	104,000	.....	113,830	.....	.....	9,577	.....	.....	.....	9 577	1
6,849	2.325	6,000	76,000	6,404	97,578	325	.....	20,000	.....	.....	4,793	25,118	2
.... .	24,245	27,614	180,000	2,000	233,859	..	.....	60,000	5,952	...	1,200	67,152	3
154	8,037	8,840	40,000	596	57,627	1,154	.....	17,100	1,730	133	1,528	21,645	4
19,805	14,640	.....	124,745	34	159,224	.....	.....	11,240	24,000	.....	.....	35,240	5
2,064	19,286	.....	70,000	3,688	95,038	.....	.....	24,568	20,000	.....	.....	44,568	6
113	27,135	2,000	125,000	6,664	160,912	.....	149,000	.....	14,743	2,202	550	166,495	7
.....	12,986	23,030	87,638	878	124,532	210	... .	26,000	.....	1,020	13	27,243	8
243	4,587	.....	28,000	.....	32,830	.....	... ...	.....	3,166	128	548	3,842	9
1,193	4,926	.....	.....	47	6,166	10	2,000	.....	2,000	.....	1,604	5,614	10
3,709	3,041	.. ....	50,000	.....	56,750	.....	.....	.....	.....	.....	.....	.....	11
58	38,329	57,899	60,000	14	156,300	1,500	30,000	28,760	41,906	.....	5,151	107,317	12
594	20,408	†17,157	77,000	.....	115,159	....	.....	73,000	5,091	817	.....	78,908	13
4,865	14,144	.....	‡146,319	2,747	168,075	.....	.....	46,521	10,000	964	3,959	61,444	14
6,181	13,539	.....	54,560	.....	74,220	....	.....	14,323	5,000	2,483	169	21,975	15
1,103	.....	.....	54,000	.....	55,103	.....	.....	.....	.....	.....	.....	.....	16
123	20,525	15,494	148,000	754	184,896	170	.....	45,000	19,572	133	500	65,375	17
7,187	13,910	.....	55,000	.....	76,097	.....	.....	91,700	.....	40	....	91,740	18
4,797	11,436	.....	101,500	627	118,360	474	.....	7,197	3,000	333	.....	11,004	19
17,430	64,979	46,662	86,202	15,556	230,829	.....	.....	486,260	.....	1,025	9,253	496,538	20
.....	3,708	.....	59,000	.....	62,708	.....	.....	.....	3,988	.....	948	4,936	21
4,832	17,111	2,000	50,500	6	74,449	.....	.....	20,000	10,000	739	19	30,758	22
16,495	2,000	.....	50,000	4	68,499	.....	.....	15,602	12,087	782	.....	28,471	23
25,089	4,310	.....	190,000	474	219,873	185	.....	126,807	.....	364	2,314	129,670	24
80	.....	.....	74,786	.. ..	74,866	.....	.....	6,523	4,000	9	2,599	13,131	25
15,775	14,732	.....	125,000	125	155,632	.....	120,000	84,250	1,500	52	2,019	207,821	26
1,360	14,441	6,547	93,365	3,007	118,710	2,360	.....	42,063	13,135	1,269	6,343	65,170	27
763	10,608	.....	20,000	.....	31,371	.....	.....	. ..	16,496	.....	232	16,728	28
4,561	2,192	.....	33,500	.....	40,253	5	10,000	.....	.....	.....	.....	10,005	29
2,959	16,275	5,777	50,000	1,664	76,675	32	.....	35,481	.....	495	633	36,641	30
3,671	23,930	**18,600	*a*167,000	12,571	225,772	.....	11,000	50,000	30,000	.....	12,013	103,013	31
2,030	11,285	... ..	61,000	29,221	103,536	.....	*	37,687	4,000	... ..	916	42,603	32
1,160	20,192	.....	66,765	3,241	91,348	50	.....	.....	20,500	398	240	21,188	33
1,058	.....	.....	85,000	735	86,793	.....	.....	24,936	.....	.....	.....	24,936	34
1,620	4,873	.....	130,742	280	137,515	1,237	.....	1,851	.....	.....	80	3,168	35
11,887	30,989	.....	84,000	3,057	129,933	3,400	.....	.....	21,000	512	3,393	28,305	36
.....	2,360	9,166	*121,000	7,828	140,354	60	.....	11,000	.....	.....	2,768	13,828	37
.....	33,738	.....	100,000	49,584	183,322	352	.....	41,610	34,159	11,991	4,879	92,991	38

* The amount of $30,735 Drainage Debentures was formerly tabulated as Ry. Debs. in error.
† Including $5,091—in general account.
‡ Including $89,900 for bridges.
** Being 18,000 estimated value of $181,300 Northern Ry. stock and $600 stock in "Agricultural Company."
a Including $23,000 for bridges.

POPULATION, ASSESSMENT AND TAXATION.

TABLE VI. Statement of municipalities of Ontario (townships, towns, villages and cities) grouped into County limits, showing for 1899 the population, the area, the assessed values and amount of taxes imposed for all purposes inclusive of schools, as shown by the assessment and collection rolls, together with the average rate per head of the resident population ; also totals by counties for 1889.

Municipalities.	Population.	No. of acres assessed.	Assessed values.				Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Total.	Per head.
			$	$	$	$	$	$ c.
ALGOMA :								
Townships	8,609	408,360	1,375,141	20,450	500	1,396,091	29,141	3 39
Towns	4,136	2,828	1,911,800	57,700	19,790	1,989,290	39,105	9 45
Totals :								
1899	12,745	411,188	3,286,941	78,150	20,290	3,385,381	68,246	5 35
1889	4,809	161,624	1,694,151	67,945	9,000	1,771,096	26,593	5 53
BRANT :								
Townships	13,960	215,265	9,291,126	177,446	12,050	9,480,622	65,038	4 66
Town	3,280	685	936,136	76,339	14,800	1,027,275	19,352	5 90
City (Brantford)	16,215	2,541	6,444,815	568,895	98,545	7,112,255	134,532	8 30
Totals :								
1899	33,455	218,491	16,672,077	822,680	125,395	17,620,152	218,922	6 54
1889	32,971	217,873	14,800,382	934,596	210,126	15,945,104	170,875	5 18
BRUCE :								
Townships	39,396	905,009	17,490,480	134,035	2,850	17,627,365	139,463	3 54
Towns	7,351	3,995	1,537,873	148,950	39,970	1,726,793	42,855	5 83
Villages	9,148	6,574	1,808,846	210,925	15,350	2,035,121	38,864	4 25
Totals :								
1899	55,895	915,578	20,837,199	493,910	58,170	21,389,279	221,182	3 96
1889	58,608	819,245	21,571,609	418,630	68,910	22,059,149	236,437	4 03
CARLETON :								
Townships	28,794	567,798	9,083,857	26,725	.....	9,110,582	101,181	3 51
Villages	3,807	2,190	678,042	11,250	.....	689,292	14,537	3 82
City (Ottawa)	57,002	3,365	21,921,815	1,241,450	541,625	23,704,890	530,934	9 31
Totals :								
1899	89,603	573,353	31,683,714	1,279,425	541,625	33,504,764	646,652	7 22
1889	74,101	567,534	23,349,432	1,200,200	278,075	24,827,707	449,658	6 07
DUFFERIN :								
Townships	15,370	356,720	5,607,210	18,550	200	5,625,960	69,389	4 51
Town	4,025	1,511	745,410	21,400	9,600	776,410	18,579	4 62
Villages	1,881	866	470,050	12,450	7,300	489,800	8,834	4 70
Totals:								
1899	21,276	359,097	6,822,670	52,400	17,100	6,892,170	96.802	4 55
1889	21,552	355,881	5,604,477	78,750	17,150	5,700,377	95,377	4 43
DUNDAS :								
Townships	14,138	237,127	5,454,227	58,200	3,600	5,516,027	67,211	4 75
Villages	4,839	2,867	1,163,725	93,775	30,650	1,288,150	23,311	4 82
Totals :								
1899	18,977	239,994	6,617,952	151,975	34.250	6,804,177	90,522	4 77
1889	18,518	239,066	6,868,307	176,850	52,250	7,097,407	73,087	3 95
DURHAM :								
Townships	19,119	370,219	9,604,892	48,775	2,900	9,656,567	70,126	3 67
Towns	7,128	3,965	2,286,970	196,450	79,130	2,562,550	47,798	6 71
Villages	1,449	2,376	364,400	12,875	2,000	379,275	7,010	4 84
Totals :								
1899	27,696	376,560	12,256,262	258,100	84,030	12,598,392	124,934	4 51
1889	31,776	374,732	13,227,873	329,705	119,303	13,676,881	130,565	4 11
ELGIN :								
Townships	24,925	435,085	12,466,539	57,145	6,020	12,529,704	149,025	5 98
Town	2,143	531	607,540	82,050	13,435	703,025	17,254	8 05
Villages	2,281	2,411	444,010	60,165	2,498	506.673	9,128	4 00
City (St. Thomas)	11,715	1,700	3,987,435	*253,134	*253,134	4,493,703	*111,740	9 54
Totals :								
1899	41,064	439,727	17,505,524	452,494	275,087	18,233,105	287,147	6 99
1889	40,585	439,987	16,900,138	390,705	204,885	17,495,728	237,645	5 86

* Estimated, as the official return was not received.

POPULATION, ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed values.				Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Total.	Per head.
			$	$	$	$	$	$ c.
ESSEX :								
Townships	32,928	429,451	11,345,066	70,457	8,600	11,424,123	203,484	6 18
Towns	9,763	4,273	2,718,127	964,471	65,540	3,748,138	68,184	6 98
Villages	1,847	783	437,766	14,540	1,700	454,006	8,174	4 43
City (Windsor)	11,436	2,020	5,104 425	156,000	52,600	5,313,025	147,058	12 86
Totals :								
1899	55,974	436,527	19,605,384	1,205,468	128,440	20,939,292	426,900	7 63
1889	50,316	437,044	14,927,965	274,697	59,800	15,262,462	317,077	6 30
FRONTENAC :								
Townships	20,566	684,582	4,697,881	13,270	2,300	4,713,451	85,113	4 14
Villages	1,003	216	140,070	24,380	10,850	175,300	4,014	4 00
City (Kingston)	18,067	2,300	6,757,945	800,589	269,675	7,828,209	153,739	8 51
Totals :								
1899	39,636	687,098	11,595,896	838,239	282,825	12,716,960	242,866	6 13
1889	40,220	681,117	11,024,245	1,117,639	423,695	12,565,579	211,288	5 25
GLENGARRY .								
Townships	16,716	285,730	3,924,323	35,520	600	3,960,443	49,136	2 94
Villages	2,693	931	334,427	9,375	.....	343,802	9,486	3 52
Totals :								
1899	19,409	286,661	4,258,750	44,895	600	4,304,245	58,622	3 02
1889	20,309	289,130	4,248,819	109.780	.....	4,358,599	48,826	2 40
GRENVILLE :								
Townships	12,698	271,222	4,528,599	5,200	3,000	4,536,799	43,809	3 45
Town	2,769	1,182	824,290	31,350	10,700	866,340	19,204	6 94
Villages	3,645	1,442	880,010	70,775	22,680	973,465	14,289	3 92
Totals :								
1899	19,112	273 846	6,232,899	107,325	36,380	6,376,604	77,302	4 04
1889	19,894	275,316	5,098,775	82,150	30,800	5,211,725	65,717	3 30
GREY :								
Townships	51,012	1,060,774	16,393,866	67,110	1,250	16,462,226	176,433	3 46
Towns	12,185	9,620	3,417,847	201,800	55,895	3 675,542	84,252	6 91
Villages	1,462	1,390	278,287	·22,900	1,900	303,087	4,754	3 25
Totals :								
1899	64,659	1,071,784	20,090,000	291,810	59,045	20,440,855	265,439	4 11
1889	65,494	1,069,756	20,361,060	374,345	70,660	20,806,065	252,356	3 85
HALDIMAND :								
Townships	15,854	279,994	6,942,599	24,610	1,850	6,969,059	64,499	4 07
Villages	5,089	2,879	1,064,464	105,325	9,500	1,179,289	25,006	4 91
Totals :								
1899	20,943	282,873	8,007,063	129,935	11,350	8,148,348	89,505	4 27
1889	21,080	283,787	8,263,964	212,173	21.500	8,497,637	86,520	4 10
HALIBURTON : 1899	5,797	561,549	479,864	9,250	.....	489,114	20,694	3 57
HALIBURTON : 1889	6,045	557,193	474,928	15,120	500	490,548	20,708	3 43
HALTON :								
Townships	12,485	224,663	7,467,906	47,840	9,730	7,525,476	48,780	3 91
Towns	2,953	1,700	818,612	42,325	8,500	869,437	17,358	5 88
Villages	4,011	1,817	930,376	56,265	4,000	990,641	17,416	4 34
Totals :								
1899	19,449	228,180	9,216,894	146,430	22,230	9,385,554	83,554	4 30
1889	21,052	228,073	9,269,925	166,190	33,355	9,469,470	88,229	4 19
HASTINGS :								
Townships	35,616	1,025,334	9,120,304	7.600	6,900	9,134,804	124,927	3 51
Towns	7,409	2,333	1,926,962	58,050	18,850	2,003,862	46,555	6 28
Villages	3,120	1,517	634,407	62,800	8,300	705,507	13,766	4 41
City (Belleville)	10,242	1,700	3,567,026	200,750	75,800	3,843,576	93,226	9 10
Totals :								
1899	56,387	1,030,884	15,248,699	329,200	109,850	15,687,749	278,474	4 94
1889	54,233	989,928	15,739,876	267,350	103,550	16,110,776	263,647	4 86

POPULATION, ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No of acres assessed.	Assessed values— Real property.	Personal property.	Taxable income	Total.	Taxes imposed for all purposes. Total.	Per head.
			$	$	$	$	$	$ c.
HURON :								
Townships	43,741	799,567	25,928,376	102,625	4,000	26,035,001	168,905	3 86
Towns	11,198	3,050	2,781,968	188,655	48,025	3,018,648	70,241	6 27
Villages	5,841	4,639	1,296,564	124,125	9,050	1,429,739	24,478	4 19
Totals :								
1899	60,780	807,256	30,006,908	415,405	61,075	30,483,388	263,624	4 34
1889	63,737	806,788	30,721,006	454,610	111,985	31,287,601	258,165	4 05
KENT :								
Townships	33,520	566,880	17,560,878	33,320	3,300	17,597,498	230,746	6 88
Towns	9,322	4,523	2,031,765	162,800	10,550	2,205,115	48,856	5 24
Villages	1,888	961	369,788	30,185	6,200	406,173	10,713	5 67
City (Chatham)	8,937	1,650	3,340,515	138,800	60,183	3,539,498	95,445	10 68
Totals :								
1899	53,667	574,014	23,302,946	365,105	80,233	23,748,284	385,760	7 19
1889	51,616	577,473	22,751,162	408,270	93,335	23,252 767	341,705	6 62
LAMBTON :								
Townships	33,264	659,063	14,357,791	35,425	1,800	14,395,016	196,617	5 91
Towns	13,337	5,100	3,270,542	205,800	114,630	3,590,972	99,120	7 43
Villages	6,578	4,889	1,109,660	80,530	5,300	1,195,490	26,188	3 98
Totals :								
1899	53,179	669,052	18,737,993	321,755	121,730	19,181,478	321,925	6 05
1889	50,392	671,095	19,398,418	440,572	122,174	19,961,164	311,919	6 19
LANARK :								
Townships	19,303	671,639	5,278,858	178,275	400	5,457,533	61,945	3 21
Towns	15,745	3,150	3,685,628	338,850	66,650	4,091,128	86,847	5 52
Village	818	2,684	163,925	16,720	1,400	182 045	4,004	4 89
Totals :								
1899	35,866	677,473	9,128,411	533,845	68,450	9,730,706	152,796	4 26
1889	35,827	674,223	8,000,064	426,145	65,775	8,491,984	121,690	3 40
LEEDS :								
Townships	20,883	468,108	7,030.976	50,810	15,050	7,096,836	88,654	4 25
Towns	12,475	2,425	4,238,748	242,150	46,500	4,527,398	104,324	8 36
Villages	1,389	1,388	259,365	5,550	3,275	268,190	5,441	3 92
Totals :								
1899	34,747	471,921	11,529,089	298,510	64,825	11,892,424	198,419	5 71
1889	37,124	474,486	10,226,161	525,549	137,790	10,889,503	162,880	4 39
LENNOX AND ADDINGTON:								
Townships	18,953	434,385	6,470,654	64,950	9,075	6,544,679	75 527	3 99
Town	3,044	372	863,565	28,850	26,240	918,655	26,101	8 57
Villages	1,045	5,469	220,997	4,000	3,580	228,577	5,221	5 00
Totals :								
1899	23,042	440 226	7,555,216	97,800	38,895	7,691,911	106,849	4 64
1889	22,433	418,503	7,760,966	124,361	42,275	7,927,605	102,763	4 58
LINCOLN :								
Townships	13,947	191,194	6,459,460	175.451	7,240	6,642,151	62,930	4 51
Town	1,261	586	483,960	13,800	400	498,160	10,049	7 97
Villages	4,382	1,847	1,150,099	61,150	7,930	1,219,179	27,154	6 20
City (St. Catharines)	10,309	3,000	3,729,295	657.700	46,550	4,433,545	133,893	12 99
Totals :								
1899	29,899	196,627	11,822,814	908,101	62,120	12,793,035	234,026	7 83
1889	29,836	196,102	11,616,949	808,082	138,076	12,563,107	188,237	6 31
MANITOULIN :								
Townships	4,893	211,539	636,726	9,830		646,556	11,500	2 35
Towns	1,283	1,466	190,310	34,800	2,900	228,010	5,120	3 99
Totals :								
1899	6,176	213,005	827,036	44,630	2,900	874,566	16,620	2 69
1889	5,275	226,530	685,345	70,305	100	755,750	14,308	2 71

POPULATION, ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed values— Real property.	Personal property.	Taxable income.	Total.	Taxes imposed for all purposes. Total.	Per head.
			$	$	$	$	$	$ c.
MIDDLESEX :								
Townships	44,424	756,696	23,326,103	47,865	4,000	23,377,968	220,844	4 97
Towns	4,523	2,800	1,178,714	88,123	15,550	1,282,387	26,739	5 91
Villages	3,322	2,297	667,365	40,000	3,300	710,665	14,369	4 32
City (London)	38,902	4,478	14,620,274	2,029,150	435,003	17,084,427	415,679	10 68
Totals :								
1899	91,171	766,271	39,792,456	2,205,138	457,853	42,455,447	677,531	7 43
1889	88,107	766,135	37,819,281	1,739,470	995,435	40,554,186	581,707	6 60
MUSKOKA :								
Townships	11,479	534,558	1,552,967	23,065	730	1,576,762	31,842	2 77
Towns	4,489	1,039	608,530	32,250	6,300	647,080	18,510	4 12
Villages	2,107	4,061	282,701	30,470	1,750	314,921	9,489	4 50
Totals :								
1899	18,075	539,658	2,444,198	85,785	8,780	2,538,763	59,841	3 31
1889	14,371	515,848	1,844,747	78,704	8,850	1,932,301	41,597	2 89
NIPISSING :								
Townships	8,389	297,363	707,173	26,745	775	734,693	18,800	2 24
Towns	6,062	4,648	1,099,247	104,750	400	1,204,397	30,145	4 97
Totals :								
1899	14,451	302,011	1,806,420	131,495	1,175	1,939,090	48,945	3 39
1889	6,269	162,735	599,834	121,602	22,500	743,936	15,269	2 44
NORFOLK :								
Townships	21,964	400,614	8,401,402	62,235	2,200	8,465,837	87,679	3 99
Town	2,870	807	871,910	49,100	36,581	957,591	18,421	6 42
Villages	3,657	1,864	756,085	38,080	3,050	797,215	17,805	4 87
Totals :								
1899	28,491	403,285	10,029,397	149,415	41,831	10,220,643	123,905	4 35
1889	29,662	398,237	9,952,729	251,780	61,920	10,266,429	106 748	3 60
NORTHUMBERLAND :								
Townships	24,025	436,402	10,044,288	45,125	7,750	10,097,163	86,765	3 61
Town	4,231	2,417	1,336,510	75,350	26,400	1,438,260	29 883	7 06
Villages	5,617	4,881	1,562,400	75,500	14,920	1,652,820	28,416	5 06
Totals :								
1899	33,873	443,700	12,943,198	195,975	49,070	13,188,243	145,064	4 28
1889	36,126	443,763	13,368,825	273,755	80,705	13,723,285	142,986	3 96
ONTARIO :								
Townships	28,872	499,978	14,454,387	110,215	6,900	14,571,502	109,794	3 80
Towns	8,219	6,700	2,322,263	133,700	43,685	2,499,648	52,791	6 42
Villages	3,502	1,449	748,023	55,700	6,350	810,073	15,662	4 47
Totals :								
1899	40,593	508,127	17,524,673	299,615	56,935	17,881,223	178,247	4 39
1889	43,539	509,123	18,982,262	437,270	91,620	19,511,152	183,202	4 21
OXFORD :								
Townships	28,917	471,907	19,002,083	115,775	9,500	19,127,358	145,346	5 03
Towns	16,443	5,625	4,630,835	242,650	63,650	4,937,135	112,018	6 81
Villages	1,933	1,843	468,728	29,150	6,800	504,678	8,822	4 56
Totals :								
1899	47,293	479,375	24,101,646	387,575	79,950	24,569,171	266,186	5 63
1889	47,127	479,497	23,639,836	343,435	110,235	24,093,506	230,167	4 88
PARRY SOUND :								
Townships	12,161	559,189	1,872,461	21,520		1,893,981	32,154	2 64
Town	2,153	805	377,580	27,700	550	405,830	11,901	5 53
Villages	1,135	1,071	176,568	17,245	500	194,313	5,379	4 74
Totals :								
1899	15,452	561,065	2,426,609	66,465	1,050	2,494,124	49,434	3 20
1889	9,426	369,256	1,509,882	73,707	7,960	1,591,549	24,489	2 60

POPULATION, ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed values.				Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Total.	Per head.
			$	$	$	$	$	$ c.
PEEL:								
Townships	16,550	288,676	9,294,834	23,450	400	9,318,684	71,762	4 34
Town	2,978	1,202	937,575	52,650	15,500	1,005,725	24,960	8 38
Villages	1,210	983	287,745	21,850	2,400	311,995	4,900	4 05
Totals:								
1899	20,738	290,861	10,520,154	97,950	18,300	10,636,404	101,622	4 90
1889	22,746	289,895	10,496,489	150,175	25,200	10,671,864	90,131	3 96
PERTH:								
Townships	29,539	518,788	19,541,831	17,800	2,100	19,561,731	156,838	5 31
Towns	7,960	5,584	2,403,570	222,460	40,950	2,666,980	56,396	7 08
Village	623	475	136,120	....	.....	130,120	2,263	3 63
City (Stratford)	10,422	2,723	3,785,980	165,350	103,520	4,054,850	94,478	9 07
Totals:								
1899	48,544	527,570	25,861,501	405,610	146,570	26,413,681	309,975	6 39
1898	49,184	526,723	24,442,728	356,375	163,700	24,962,803	282,480	5 74
PETERBOROUGH:								
Townships	18,926	573,290	7,160,844	5,250	1,400	7,167,494	65,935	3 48
Town	10,554	1,282	3,984,240	234,950	120,365	4,339,555	75,443	7 15
Villages	4,989	2,323	1,056,294	65,200	4,300	1,125,794	18,951	3 80
Totals:								
1899	34,469	576,895	12,201,378	305,400	126,065	12,632,843	160,329	4 65
1889	31,215	549,565	11,550,335	322,260	209,000	12,081,595	132,739	4 25
PRESCOTT:								
Townships	19,001	286,732	2,238,206	14,340	550	2,253,096	50,594	2 66
Towns	4,661	6,000	625,105	54,950	6,000	686,055	13,831	2 97
Village	1,031	3,745	119,775	....	.....	119,775	2,114	2 05
Totals:								
1899	24,693	296,477	2,983,086	69,290	6,550	3,058,926	66,539	2 69
1889	21,325	295,055	2,751,505	72,550	6,500	2,830,555	51,525	2 42
PRINCE EDWARD:								
Townships	12,927	231,370	5,356,714	39 575	2,600	5,398,889	47,248	3 65
Town	3,548	552	1,204,915	84,850	15,900	1,305,665	22,092	6 93
Village	610	1,522	194,700	....	2,700	197,400	1,788	2 93
Totals:								
1899	17,085	233,444	6,756,329	124,425	21,200	6,901,954	71,128	4 16
1889	17,278	233,408	6,715,724	267,293	18,140	7,001,157	70,668	4 09
RAINY RIVER:								
Townships	1,615	28,131	409,550	24,573	700	434,823	9,638	5 97
Town	5,479	5,760	1,401,754	153,775	13,400	1,568,929	38,437	7 02
Totals:								
1899	7,094	33,891	1,811,304	178,348	14,100	2,003,752	48,075	6 78
1889	2,117	8,320	555,175	38,500	11,800	605,475	15,817	7 47
RENFREW:								
Townships	34,891	963,759	4 730,544	22,150	1,800	4,754,494	71,882	2 06
Towns	11,906	3,745	2,639,039	233,975	31,050	2,904,064	65,076	5 47
Village	1,041	428	234,000	47,495	....	281,495	3,451	3 32
Totals:								
1899	47,838	967,932	7,603,583	303,620	32,850	7,940,053	140,409	2 94
1889	41,054	904,600	4,255,348	305,636	42,700	4,603,684	104,541	2 55
RUSSELL:								
Townships	14,262	251,521	1,848,189	12,500	....	1,860,689	44,090	3 09
Villages	2,293	1,700	118,197	3,050	.....	121,247	5,530	2 41
Totals:								
1899	16,555	253,221	1,966,386	15,550	.....	1,981,936	49,620	3 00
1889	15,919	252,299	1,906,879	10,680	.....	1,917,559	36,092	2 27
SIMCOE:								
Townships	51,684	963,349	14,478,589	50,075	7,550	14,536,214	194,530	3 76
Towns	23,603	11,932	5,309,944	279,162	95,890	5,684,996	134,623	5 70
Villages	2,854	3,078	597,628	50,000	.....	647,628	13,356	4 68
Totals:								
1899	78,141	978,359	20,386,161	379,237	103,440	20,868,838	342,509	4 38
1889	73,235	979,808	17,765,050	474,670	143,634	18,383,354	299,174	4 09

POPULATION, ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	No. of acres assessed.	Assessed values.				Taxes imposed for all purposes.	
			Real property.	Personal property.	Taxable income.	Total.	Total.	Per head.
			$	$	$	$	$	$ c.
STORMONT:								
Townships	17,039	245,601	3,629,503	26,350	1,900	3,657,753	56,641	3 32
Town	6,317	740	1,619,625	69,500	27,800	1,716,925	40,239	6 37
Totals:								
1899	23,356	246,341	5,249,128	95,850	29,700	5,374,678	96,880	4 15
1889	23,098	248,040	4,797,148	84,340	34,300	4,915,788	79,404	3 44
THUNDER BAY:								
Townships	652	249,595	439,648	500		440,148	8,336	12 79
Towns	5,951	19,500	1,992,362	104,050	32,550	2,128,962	62,274	10 46
Totals:								
1899	6,603	269,095	2,432,010	104,550	32,550	2,569,110	70,610	10 69
1889	6,909	255,918	2,787,869	164,640	29,350	2,981,859	50,903	7 37
VICTORIA:								
Townships	19,828	596,343	7,650,369	6,700	1,150	7,658,219	82,664	4 17
Town	6,533	1,550	1,739,300	158,000	32,450	1,929,750	51,655	7 91
Villages	3,251	2,054	524,911	33,000		557,911	11,433	3 52
Totals:								
1899	29,612	599,947	9,914,580	197,700	33,600	10,145,880	145,752	4 92
1889	30,077	571,627	9,794,773	222,910	40,295	10,057,978	140,845	4 68
WATERLOO.								
Townships	23,968	306,826	12,813,865	70,315	8,570	12,892,750	99,101	4 13
Towns	20,447	7,287	6,575,430	628,400	127,810	7,331,640	134,262	6 57
Villages	7,961	3,646	1,968,893	145,125	17,539	2,131,557	31,663	3 97
Totals:								
1899	52,376	317,759	21,358,188	843,840	153,919	22,355,947	265,026	5 06
1889	48,027	316,012	18,092,955	746,655	178,386	19,017,996	205,191	4 27
WELLAND:								
Townships	16,636	227,300	6,563,093	215,150	6,100	6,784,343	65,571	3 94
Towns	8,294	2,566	3,201,846	179,000	26,300	3,407,146	75,762	9 13
Villages	5,053	1,958	1,403,518	59,725	25,200	1,488,443	24,584	4 86
Totals:								
1899	29,983	231,821	11,168,457	453,875	57,600	11,679,932	165,917	5 54
1889	28,369	232,901	10,149,142	451,023	68,830	10,668,995	127,082	4 48
WELLINGTON:								
Townships	32,733	627,722	18,229,232	191,800	12,250	18,433,282	146,411	4 47
Towns	5,769	3,185	1,373,742	116,425	19,750	1,509,917	34,189	5 93
Villages	6,047	4,154	1,281,221	98,825	6,850	1,386,896	27,587	4 56
City (Guelph)	10,822	3,210	3,476,830	248,100	76,400	3,801,330	97,259	8 99
Totals:								
1899	55,371	638,271	24,361,025	655,150	115,250	25,131,425	305,446	5 52
1889	56,466	637,336	21,149,228	671,291	141,912	21,962,431	268,672	4 76
WENTWORTH:								
Townships	22,575	272,250	12,134,681	72,430	10,775	12,217,886	92,282	4 09
Town	3,387	550	781,850	90,850	32,100	904,800	21,570	6 37
Village	662	307	165,100	7,950	200	173,250	1,736	2 62
City (Hamilton)	51,561	3,990	23,402,810	2,544,650	1,379,440	27,326,900	542,086	10 50
Totals:								
1899	78,185	277,097	36,484,441	2,715,880	1,422,515	40,622,836	657,674	8 41
1889	73,781	276,258	29,548,126	3,809,770	754,810	34,112,706	508,594	6 89
YORK:								
Townships	40,259	535,875	23,086,456	60,900	16,150	23,163,506	220,783	5 48
Towns	10,961	5,906	3,441,763	67,750	9,100	3,518,613	83,807	7 65
Villages	6,807	5,001	1,821,810	43,250	7,300	1,872,360	34,270	5 03
City (Toronto)	193,246	9,638	114,303,002	9,070,687	3,915,473	127,289,162	2,671,978	13 83
Totals:								
1899	251,273	556,420	142,653,031	9,242,587	3,948,023	155,843,641	3,010,838	11 98
1889	213,672	553,902	132,254,825	9,127,640	4,855,417	146,237,882	2,181,903	10 21

ASSESSMENT AND TAXATION.

TABLE VII. Summary statement for the Province of Ontario of the Population and Area, as shown by the assessment rolls, and of the assessed Values and amount of Taxes imposed, as shown by the collection rolls, together with the average rate of taxes per head of population assessed as resident, and rate in mills on the dollar of total assessed value for the fourteen years, 1886 to 1899, classified as rural (townships), urban (towns and incorporated villages) and cities.

Municipalities.	Population.	Number of acres assessed.	Assessed values.				Taxes imposed for all purposes.		
			Real property.	Personal property.	Taxable income.	Total.	Total.	Per head.	Mills on $.
1899.			$	$	$	$	$	$ c.	
Townships ..	1,109,806	23,445,092	447,964 611	2,779,272	209,065	450,952,948	4,621,803	4 16	10.2
Towns	318,145	155,477	86,935,702	6,580,960	1,492,136	95,008,798	2,106,178	6 62	22.2
Villages	133,921	98,976	28,765,060	1,951,675	256,622	30,973,357	585,356	4 37	18.9
Cities.....	448,876	42,315	214,442,167	18,075,255	7,307,948	239,825,370	5,221,947	11 63	21.8
Total.. ..	2,010,748	23,741,860	778,107,540	29,387,162	9,265,771	816,760,473	12,535,284	6 23	15.3
1898.									
Townships ..	1,110,894	23,392,584	445,877,275	2,696,084	236,701	448,810,060	4,461,474	4 02	9.9
Towns	314,820	156,142	85,576,404	6,421,936	1,531,032	93,529,372	2,095,791	6 66	22.4
Villages	134,747	98,346	28,594,694	1,902,735	270,596	30,768,025	570,912	4 24	18.6
Cities	440,889	42,034	211,334,978	16,547,241	8,195,157	236,077,376	5,094,789	11 56	21.6
Total	2,001,350	23,689,106	771,383,351	27,567,996	10,233,486	809,184,833	12,222,966	6 11	15.1
1897.									
Townships ..	1,113,530	23,360,428	441,878,264	2,609,661	234,553	444,722,478	4,407,005	3 96	9.9
Towns	312,947	156,338	83,529,999	6,343,065	1,565,482	91,438,546	2,069,444	6 61	22.6
Villages	133,560	99,240	28,314,870	1,903,926	278,911	30,497,707	569,884	4 27	18.7
Cities	430,940	40,744	212,621,741	17,125,503	7,219,402	236,966,646	5,160,592	11 98	21.8
Total.....	1,990,977	23,656,750	766,344,874	27,982,155	9,298,348	803,625,377	12,206,925	6 13	15.2
1896.									
Townships ..	1,112,900	23,172,408	444,056,842	2,792,097	268,444	447,117,383	4,292,741	3 86	9.6
Towns	306,001	154,520	83,194,842	6,456,590	1,617,776	91,269,208	2,005,132	6 55	22.0
Villages	132,451	99,507	27,855,878	1,881,680	268,281	30,005,839	557,003	4 21	18.6
Cities	420,934	40,548	221,941,541	16,963,651	7,620,011	246,525,203	5,267,909	12 51	21.4
Total.....	1,972,286	23,466,983	777,049,103	28,094,018	9,774,512	814,917,633	12,122,785	6 15	14.9
1895.									
Townships ..	1,109,631	23,114,356	445,375,439	2,762,179	279,641	448,417,259	4,473,269	4 03	10.0
Towns	300,655	152,685	84,965,120	6,999,896	1,681,819	93,646,835	2,021,455	6 72	21.5
Villages	130,889	94,566	27,572,493	1,848,480	290,037	29,711,010	544,111	4 16	15.5
Cities	416,215	40,548	225,079,539	16,852,113	7,759,410	249,691,062	5,277,594	12 68	21.1
Total.... .	1,957,390	23,402,155	782,992,591	28,462,668	10,010,907	821,466,166	12,316,429	6 29	15 0
1894.									
Townships ..	1,103,828	23,039,610	448,216,984	2,899,503	359,616	451,476,103	4,579,044	4 15	10.1
Towns	297,194	153,164	84,363,681	7,115,395	1,586,389	93,065,465	1,955,980	6 58	21.0
Villages ...	126,387	94,407	26,799,930	1,931,015	276,983	29,007,928	526,813	4 17	18.4
Cities	408,810	40,560	227,578,882	17,323,301	7,727,691	252,629,874	5,258,475	12 86	20.8
Total.....	1,936,219	23,327,741	786,959,477	29,269,214	9,950,679	826,179,370	12,320,312	6 36	14.9
1893.									
Rural	1,096,984	22,959,280	448,311,559	2,957,944	359,600	451,629,103	4,629,028	4 22	10.3
Urban	415,410	246,780	111,724,238	8,923,403	2,029,029	122,676,670	2,449,452	5 90	20.0
Cities	397,665	40,258	226,179,831	17,581,320	7,463,128	251,224,279	5,444,180	13 69	21.7
Total	1,910,059	23,246,318	786,215,628	29,462,667	9,851,757	825,530,052	12,522,660	6 56	15.2

ASSESSMENT AND TAXATION.—*Continued.*

Municipalities.	Population.	Number of acres assessed	Assessed values.				Taxes imposed for all purposes.		
			Real property.	Personal property.	Taxable income.	Total.	Total.	Per head.	Mills on $
1892.			$	$	$	$	$	$ c.	
Rural	1,102,467	22,885,464	448,566,182	3,089,202	410,274	452,065,658	4,599,442	4 17	10.2
Urban	413,396	228,829	110,989,898	8,452,309	2,469,164	121,911,371	2,375,995	5 75	19.5
Cities	393,664	40,258	222,997,515	18,928,105	9,308,478	251,234,098	4,828,133	12 26	19.2
Total....	1,909,527	23,154,551	782,553,595	30,469,616	12,187,916	825,211,127	11,803,570	6 18	14.3
1891.									
Rural	1,116,347	22,825,325	450,559,809	3,101,663	408,892	454,070,364	4,544,291	4 07	10.0
Urban	410,545	227,075	109,462,152	8,570,172	2,343,484	120,375,808	2,305,025	5 61	19.1
Cities	395,229	39,498	216,091,585	19,460,460	8,849,177	244,401,222	4,918,432	12 44	20.1
Total....	1,922,121	23,091,898	776,113,546	31,132,295	11,601,553	818,847,394	11,767,748	6 12	14.4
1890.									
Rural	1,118,252	22,676,390	448,916,986	3,178,614	371,488	452,467,038	4,473,108	4 00	9.9
Urban	410,530	223,434	105,353,091	7,878,486	2,170,656	115,402,233	2,161,644	5 27	18.7
Cities	388,762	39,498	202,907,967	19,300,295	8,538,688	230,746,950	4,262,733	10 96	18.5
Total....	1,917,544	22,939,322	757,178,044	30,357,395	11,080,832	798,616,271	10,897,485	5 68	13.7
1889.									
Rural	1,130,060	22,554,717	447,114,443	*3,470,224	392,553	450,977,220	4,507,717	3 99	10.0
Urban	400,890	215,532	96,567,320	7,773,945	2,112,533	106,453,798	1,993,623	4 97	18.7
Cities	375,951	38,498	177,634,932	18,826,684	8,013,182	204,474,798	3,746,858	9 97	18.3
Total....	1,906,901	22,808,747	721,316,695	30,070,853	10,518,268	761,905,816	10,248,198	5 37	13.5
1888.									
Rural	1,133,046	22,348,502	433,596,047	26,624,345	395,430	460,615,822	4,494,780	3 97	9.8
Urban	393,461	211,707	90,416,611	7,956,691	2,039,724	100,413,029	1,884,918	4 79	18.8
Cities	353,638	36,961	160,239,217	19,345,903	8,040,596	187,625,719	3,540,264	10 01	18.9
Total....	1,880,145	22,597,170	684,251,875	53,926,945	10,475,750	748,654,570	9,919,962	5 28	13.3
1887.									
Rural	1,140,138	22,145,295	428,372,441	27,381,683	416,039	456,170,163	4,431,720	3 89	9.7
Urban	377,389	212,322	83,497,910	7,616,982	2,222,704	93,337,596	1,759,248	4 66	18.8
Cities	330,930	36,163	140,795,414	18,226,775	8,781,990	167,804,179	3,109,145	9 40	18.5
Total....	1,848,457	22,393,780	652,665,765	53,225,440	11,420,733	717,311,938	9,300,113	5 03	13.0
1886.									
Rural	1,148,856	21,990,134	424,356,317	27,289,098	452,230	452,097,645	4,388,401	3 82	9.7
Urban	360,005	204,446	78,521,775	7,384,126	2,172,192	88,078,093	1,670,848	4 64	19.0
Cities	319,634	35,373	129,231,595	16,925,710	8,047,616	154,204,921	2,950,136	9 23	19.1
Total....	1,828,495	22,229,953	632,109,687	51,598,934	10,672,033	694,380,659	9,009,385	4 93	13.0

* This large decrease in personal property was due to a change in the Assessment Act, which exempted farm live stock, etc.

FINANCIAL STATEMENT.—TOWNSHIP MUNICIPALITIES.

TABLE VIII. Summary statement showing the totals for all townships in Ontario of the several items of Receipts, Disbursements, Assets and Liabilities for the ten years ending December 31st, 1889 1898.

Schedule.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	1890.	1889.
RECEIPTS.	$	$	$	$	$	$	$	$	$	$
Balance from the previous year	511,624	444,150	559,452	478,431	476,233	539,298	501,217	474,360	441,354	462,869
Ordinary municipal revenue:										
Municipal and school taxes	4,462,288	4,598,830	4,286,861	4,478,627	4,573,620	4,463,043	4,709,576	4,440,478	4,563,863	4,315,642
Licenses (liquor and other)	43,019	46,723	47,758	49,539	62,084	64,577	70,664	72,337	73,942	69,326
Fees, rents, fines, etc	12,716	12,423	11,873	12,363						
Refund of loans, investments and deposits	505,476	199,050	273,483	232,825	291,747	226,983	234,690	517,726	268,828	364,901
Interest and dividends	75,461	72,385	65,774	68,217						
Loans:										
Money borrowed for current expenses	456,217	450,533	548,495	525,677	591,014	457,466	419,335	580,354	477,099	403,857
Money borrowed on debentures for—										
Schools	69,597	56,673	49,982	61,850	54,324	57,397	94,707	47,160	403,828	330,080
Drainage	261,022	293,921	163,023	260,269	285,460	252,148	300,999	332,504		
Other purposes	48,438	20,800	49,445	96,457						
Premiums on debentures sold	7,690	11,525	4,068	11,798	204,930	127,958	129,494	191,711	130,281	145,092
Grants from county for roads, etc	15,895	22,879	39,467	36,395						
Miscellaneous	123,393	78,621	86,486	94,222						
Totals	6,622,836	6,308,516	6,186,167	6,406,670	6,539,412	6,188,870	6,460,682	6,656,630	6,359,195	6,091,767
DISBURSEMENTS.										
Expenses of municipal government:										
Allowances, salaries and commissions	294,313	292,206	287,272	285,335	285,560	285,188	287,882	281,802	274,430	271,619
Law costs, including salaries	43,690	51,865	31,090	60,491	138,693	128,700	137,748	119,487	127,872	121,901
Other expenses of municipal government	96,166	93,321	89,827	84,952						
Construction works:										
Roads and bridges	772,947	706,091	702 212	639,241	796,775	806,781	743,631	755,323	779,028	685,371
Buildings and other works	15,381	21,891	16,429	8,883	7,393	11,836	17,201	23,515		
Drainage works	311,311	275,869	238,919	227,692	297,286	275,941	237,215	275,551	234,799	192,161
Support of the poor and other charities	59 871	58,763	58,543	66,655	65,621	62,332	66,819	68,421	67,469	64,224
County treasurer for levy	910,094	958,975	984,609	1,091,953	1,086,752	1,098,967	1,204,116	1,145,037	1,166,283	1,106,129

Payments on schools and education	1,926,978	1,935,503	1,813,537	1,796,237	1,831,241	1,820,007	1,904,746	1,782,303	1,884,569	1,857,349
Sinking fund investments and deposits	114,112	89,621	118,214	123,143	285,334	149,768	165,841	191,072	211,228	220,844
Other investments and special deposits	121,068	160,427	161,024	162,983						
Loans repaid:										
Debentures redeemed (principal)—										
School	60,969	66,140	65,230	67,409	433,996	355,363	365,012	641,382	325,834	443,419
Drainage	194,044	182,884	219,201	219,588						
All other	390,029	72,186	100 693	85,851						
Interest on loans, advances, debentures	177,617	168,620	177,501	183,553	180,027	177,693	187,720	200,504	198,674	194,710
Moneys borrowed for current expenses	430,588	518,518	537,482	572,968	524,212	407,663	460,546	508,355	484,326	353,262
Board of Health	17,979	17,449	15,298	22,293	128,091	132,398	142,857	159,661	130,323	139,391
Miscellaneous	145,866	96,563	121,933	147,991						
Totals	6,083,023	5,766,892	5,742,017	5,847,218	6,060,981	5,712,637	5,921,384	6,155,413	5,884,835	5,650,413
ASSETS.										
Cash in treasury	539,813	541,624	444,150	559,452	478,431	476,233	539,298	501,217	474,360	441,354
Taxes in arrears	1,438,023	1,412,171	1,577,267	1,610,480	1,596,099	1,572,817	1,373,503	1,211,872	1,339,039	1,434,687
Sinking Fund investments and deposits	218,767	498,619	452,819	425,269	1,412,922	1,371,296	1,396,451	1,373,830	1,590,414	1,578,466
Other investments and special deposits	1,078,088	1,067,449	1,062,530	1,069,519						
Lands, buildings and other property	414,704	403,904	379,729	355,305	354,010	359,473	335,527	352,641	337,068	331,381
Miscellaneous	619,615	615,822	564,968	436,379	456,907	561,903	530,727	462,641	290,012	184,337
Totals	4,304,010	4,539,589	4,481,463	4,456,404	4,328,369	4,341,722	4,175,506	4,202,201	4,030,893	3,970,225
LIABILITIES.										
County levy	428,262	438,311	474,425	574,634	563,909	537,085	470,342	506,361	471,320	502,359
Local school rates	299,667	292,071	333,291	299,082	280,176	273,812	229,731	240,810	219,686	225,894
Debentures outstanding (principal) for—										
Aid to railways	621,053	984,196	1,015,669	1,057,852	1,058,761	1,106,290	1,120,100	1,178,027	3,366,617	3,299,557
Schools	462,438	454,119	463,586	478,834	481,665	496,311	505,250	479,737		
Drainage	1,322,734	1,253,902	1,142,862	1,206,232	1,401,841	1,437,222	1,464,080	1,460,875		
Other purposes	243,473	224,874	244,787	249,725						
Due Sinking Fund	20,171	20,857	18,480	25,001	382,096	308,567	259,168	300,020	188,067	195,872
Loans for current expenses and interest	281,720	257,215	331,123	314,116						
Miscellaneous	208,691	167,768	158,481	174,752	127,699	171,949	149,846	146,364	121,876	126,343
Totals	3,888,209	4,093,313	4,182,704	4,380,228	4,296,147	4,331,236	4,198,517	4,312,194	4,367,566	4,350,025

The total receipts do not include Legislative grants for schools, not being considered a municipal transaction. This also refers to towns, villages and cities.

Table I., beginning on page 2, gives condensed statistics of each township.

FINANCIAL STATEMENT—TOWN MUNICIPALITIES.

TABLE IX. Summary showing the totals for all towns in Ontario of the several items of receipts, disbursements, assets, and liabilities, for the eight years ending December 31st, 1891-1898.

Schedule.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.
RECEIPTS.	$	$	$	$	$	$	$	$
Balance from previous year	199,704	257,955	244,963	165,782	149,398	158,867	197,338	162,109
Municipal and school taxes	2,098,141	2,037,088	1,964,716	1,971,028	1,932,387	1,840,603	1,877,361	1,708,632
Licenses (liquor and other)	104,097	107,539	108,549	111,522	176,600	183,645	173,854	169,213
Fees, rents, fines, etc	58,454	58,265	58,202	57,380				
Water rates, electric light rates, etc	223,691	195,797	164,725	152,224	119,172	99,670	84,207	61,654
Refunds of loans and special deposits	219,676	299,175	155,291	190,884	242,012	268,126	175,210	198,470
Interest and dividends	41,171	47,849	40,911	37,591				
Loans for current expenses	1,795,762	1,739,618	1,682,395	1,407,460	1,789,250	1,562,564	2,255,191	1,854,068
Money borrowed on debentures for Schools	8,000	34,093	60,400	62,236	69,700	131,000	45,750	104,800
Money borrowed on debentures for Other purposes	937,057	798,131	747,861	771,320	679,314	1,049,259	928,768	950,707
Premium on debentures sold	26,226	31,748	39,933	31,784	73,522	69,181	85,093	95,176
County grants	2,425	2,022	6,307	7,289				
Miscellaneous	68,512	68,546	37,683	53,872				
Totals	5,782,916	5,677,826	5,311,936	5,020,372	5,231,355	5,362,915	5,822,772	5,304,829
DISBURSEMENTS.								
Expenses of municipal government:								
Allowances, salaries, commissions	120,053	122,203	120,538	121,207	119,792	127,903	122,790	123,318
Lighting of streets, water supply and fire protection	356,813	328,954	316,256	315,437	298,594	278,379	267,913	246,896
Law costs (including salaries)	38,670	25,119	22,142	40,561	108,788	122,665	89,761	92,359
Other expenses of government	86,945	87,663	79,622	81,338				
Construction works:								
Streets, bridges and parks	379,064	325,302	351,668	304,857	333,226	376,989	392,318	461,513
Buildings and other works	60,335	73,335	65,524	45,262	292,537	366,317	679,559	573,140
Waterworks and electric light plant	416,581	421,279	384,868	316,920				
Support of the poor and other charities	35,636	35,371	31,234	33,908	30,664	32,747	31,421	31,918
Administration of justice, police service	81,321	79,423	75,784	67,279	66,251	62,418	60,018	58,334
County treasurer for levy	90,010	90,909	97,181	93,719	89,660	89,240	105,611	91,164
Payments for schools and education	643,876	643,347	667,449	633,938	656,246	689,271	618,537	636,847
Sinking fund investments and deposits	140,806	259,056	160,452	145,393	246,378	272,987	275,745	198,524
Other investments and special deposits	116,251	61,315	91,986	82,345				

Debentures redeemed { School	45,959	58,527	71,378	44,082	358,691	453,632	316,247	102,168
{ All other	408,119	515,822	229,187	314,543				
Interest on loans and debentures	580,747	480,879	486,891	502,885	456,964	451,258	424,319	392,393
Money borrowed for current expenses	1,756,682	1,634,743	1,664,174	1,481,901	1,810,483	1,745,922	2,077,473	1,625,051
Board of Health	12,799	13,905	10,626	12,863	197,299	143,789	202,193	173,866
Miscellaneous	187,023	220,970	127,018	137,376				
Totals	5,557,690	5,478,122	5,053,981	4,775,814	5,065,573	5,213,517	5,663,905	5,107,491
Assets.								
Cash in treasury	225,226	199,701	257,955	244,558	165,782	149,398	158,867	197,338
Taxes in arrears	833,921	882,748	885,956	861,006	856,825	792,949	698,649	741,036
Sinking Fund investments and deposits	801,859	806,668	793,170	693,494	1,266,082	1,263,985	1,220,071	1,062,593
Other investments and special deposits	619,971	586,228	618,862	625,479				
Waterworks and electric light plant	*a*3,504,764	3,159,171	2,890,983	2,644,937	5,092 767	4,943,759	4,672,489	4,139,290
Other buildings and property	3,087,487	2,983,178	2,950,183	2,986,528				
Miscellaneous	1,195,370	1,237,538	1,127,298	458,153	573,210	426,879	383,683	230,991
Totals	10,268,598	9,855,235	9,524,407	8,517,155	7,954,666	7,576,970	7,133,759	6,371,251
Liabilities.								
County levy	32,249	33,571	34,242	40,176	36,742	41,261	31,924	46,809
Local school rates	197,723	187,261	193,869	185,911	176,931	165,324	157,434	175,028
Debentures outstanding for { Aid to railways	507,484	603,591	607,105	652,113	722,628	854,866	875,920	893,090
{ Schools	857,365	895,224	1,023,429	1,034,407	1,021,020	974,874	879 706	870,445
{ Other purposes	8,979 801	8,351,797	7,967,529	7,403,818	6,863,404	6,392,549	5,736,252	5,012,180
Due Sinking Funds	585,152	94,551	120,617	87 791	735,877	765,267	944,023	765,184
Loans for current expenses and interest	709,040	661,542	575,526	572,187				
Miscellaneous	144,203	267,460	213,585	142,672	170,903	174,088	188,898	240,962
Totals	11,513,017	11,095,000	10,735,902	10,119 105	9,731,505	9,371,229	8,817,157	8,003,698

a The electric and other light plants in *towns* in 1898, aggregated $426,525, as follows: Amherstburg $3,500; Barrie, $22,501; Berlin, (gas) $960; Bracebridge, $12,000; Collingwood, $23,756; Dundas, $1,022; Fort William, $17,049; Goderich, $ 8,098; Kincardine, $13,2?0; Leamington, (natural gas) $25,000; Mitchell, $9,000; Newmarket, $11,500; Niagara, $17,520; Orillia, $32,221; Picton, $17,100; Port Arthur, $126,638; St. Marys, $2,050; Sudbury, $20,000; Thorold, $17,000; Toronto Junction, $24,000; Trenton, $12,000; (North Toronto, in addition to the foregoing, has an electric light plant estimated at $10,000, in connection with waterworks plant.)

b Including Bracebridge, $1,500; Fort William, $13,243; Kincardine, $2,555; Listowel, $1,677; Mattawa, $278; Oakville, $3,029; Orangeville, $711; Owen Sound, $7,085; Peterborough, $22,830; Port Arthur, $17,184; Seaforth, $3,700; Uxbridge, $1,396; Walkerton, $1,046; Wingham, $51; Woodstock, $8,867

FINANCIAL STATEMENT—VILLAGE MUNICIPALITIES.

TABLE X. Summary showing the totals for all villages in Ontario of the several items of receipts, disbursements, assets and liabilities for the eight years ending December, 31st, 1891-98.

Schedule.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.
RECEIPTS.	$	$	$	$	$	$	$	$
Balance from previous year	82,474	88,589	78,973	67,269	72,950	74,284	51,976	58,407
Ordinary municipal revenue:								
Municipal and school taxes	578,449	576,392	541,849	545,809	526,672	499,040	516,683	491,360
Licenses (liquor and other)	31,771	33,687	34,487	34,872	42,746	45,274	42,733	43,764
Fees, rents, fines, etc	9,778	8,301	8,941	8,738				
Water rates, etc	25,672	17,765	14,897	15,344	12,989	10,426	8,080	7,506
Refund of loans and special deposits	31,569	37,047	22,235	25,905	17,266	13,495	30,144	25,231
Interest and dividends	5,309	5,932	5,650	6,223				
Loans for current expenses	180,411	180,273	165,279	176,428	135,745	119,191	151,779	124,087
Money borrowed on debentures for—								
Schools	28,350	22,100	7,443	29 100	23,050	20,300	50,437	18,500
Other purposes	131,450	92,690	84,706	67,797	79,577	35,325	99,160	45,559
Premiums on debentures sold	4,719	6,519	1,876	5,099	32,731	14,053	23,829	17,184
County grants	1,966	2,391	4,148	2,887				
Miscellaneous	14,533	21,453	18,309	15,340				
Totals	1,126,451	1,093,139	988,793	1,000,811	943,726	831,388	974,821	831,598
DISBURSEMENTS.								
Expenses of municipal government:								
Allowances, salaries, commissions	34,967	35,661	36,604	37,793	37,139	39,336	37,042	34,787
Lighting of streets, water supply and fire protection	51,680	51,304	47,832	46,161	41,590	32,251	30,065	29,106
Law costs (including salaries)	5,132	7,794	6,119	5,983	28,392	29,794	26,563	23,336
Other expenses of government	22,776	22,986	22,134	23,054				
Construction works:								
Streets, bridges and parks	107,222	98,659	98,290	99,662	93,572	94,408	82,039	99,137
Buildings and other works	30,044	45,048	11,891	20,570	65,191	27,263	85,293	24,921
Water and electric light works	61,097	29,223	30,385	39,024				
Support of the poor and other charities	6,836	5,365	5,842	6,552	5,858	5,064	5,363	6,196
Administration of justice, police service	11,440	9,761	8,477	7,952	7,064	4,255	4,594	4,174

County treasurer for levy	43,019	43,621	36,116	42,424	44,628	39,541	41,369	38,221
Payments for schools and education	243,139	250,080	223,983	242,466	232,204	214,447	257,652	207,100
Sinking fund investments and deposits	25,185	20,717	21,461	14,606	35,679	14,560	26,129	37,734
Other investments and special deposits	16,492	11,870	7,197	12,276				
Debentures redeemed — Schools	24,185	25,229	31,542	18,851	52,120	60,624	56,066	54,477
Debentures redeemed — All other	72,667	53,196	72,300	35,135				
Interest on loans and debentures	66,119	65,401	68,207	68,612	62,352	63,962	62,652	60,811
Money borrowed for current expenses	182,784	192,860	137,119	176,133	134,536	107,713	157,596	128,370
Board of Health	2,767	2,931	2,740	2,962	36,132	25,280	28,114	31,252
Miscellaneous	28,502	38,959	31,366	21,217				
Totals	1,036,053	1,010,665	899,605	921,433	876,457	758,438	900,537	779,622
Assets.								
Cash in treasury	90,398	82,474	89,188	79,378	67,269	72,950	74,284	51,976
Taxes in arrears	147,720	152,293	161,795	147,273	139,335	134,463	113,336	123,783
Sinking fund investments and deposits	95,125	87,651	92,526	86,181	132,914	136,838	112,414	111,945
Other investments and special deposits	47,142	45,882	47,278	48,742				
Water works and electric light plant	a523,792	455,600	381,913	368,262	802,525	723,877	711,840	642,916
Other buildings and property	542,893	514,177	493,148	495,053				
Miscellaneous	49,358	62,116	38,798	61,606	57,178	48,309	51,021	48,130
Totals	1,496,428	1,400,193	1,304,646	1,286,495	1,199,221	1,116,437	1,062,895	978,750
Liabilities.								
County levy	18,324	19,533	20,845	16,692	15,041	19,880	16,845	15,647
Local rates	56,346	62,659	65,478	55,432	50,089	47,691	35,501	42,891
Debentures (principal) outstanding for—								
Aid to railways	63,150	72,617	92,132	115,017	119,280	122,315	128,109	136,059
Schools	316,908	312,743	320,872	344,971	334,004	328,444	321,997	286,181
Other purposes	844,382	774,925	750,092	715,815	679,658	631,717	637,362	571,705
Due sinking funds	b20,004	19,014	17,900	13,569	68,755	66,157	53,920	59,768
Loan for current expenses and interest	65,422	70,019	83,127	60,004				
Miscellaneous	44,878	59,103	54,540	55,008	46,851	43,644	43,265	42,788
Totals	1,429,414	1,390,613	1,404,986	1,376,508	1,313,678	1,259,851	1,236,999	1,155,039

a The electric and other light plants in villages in 1898 aggregated $62,487, as follows: Acton, $1,151; Alexandria, $7,000; Campbellford, $12,600; East Toronto, $389; Huntsville, $7,137; Kingsville (natural gas), $30,000; Markham, $2,500; Merriton, $260; Morrisburg, $200; Port Colborne, $250; Tilbury, $1,000.

b Including Acton, $433; Beaverton, $1,170; Blyth, $3,243; Casselman, $300; East Toronto, $5,375; Lucknow, $4,076; Madoc, $4,440; Norwich, $433; Sundridge, $332; Tilbury, $202.

FINANCIAL STATEMENT—CITY MUNICIPALITIES.

TABLE XI. Summary statement showing the totals for the thirteen Cities of the Province of Ontario of the several items of Receipts, Disbursements, Assets and Liabilities for the ten years ending December 31st, 1889-98.

Schedule.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	1890.	1889.
RECEIPTS.	$	$	$	$	$	$	$	$	$	$
Balance from previous year	589,891	715,390	543,686	378,541	395,266	579,251	559,010	368,901	277,173	670,856
Ordinary municipal revenue:										
Municipal and school taxes	5,078,809	4,966,002	5,088,215	5,164,106	5,115,418	5,172,759	4,717,113	4,737,229	4,089,109	3,911,167
Liquor licenses	91,275	95,449	92,222	93,893	99,185	102,336	99,660	100,593	161,559	160,897
Other licenses	47,214	41,754	39,186	41,637	42,369	42,809	45 597	50,055		
Fees, rents, tolls, fines, etc	408,888	391,691	410,453	376,122	375,111	374,736	363,041	292,900	1,093,664	1,051,753
Water rates, electric light, gas rates, etc	1,040,392	1,028,673	1,008,129	983,534	986,249	885,333	802,571	886,139		
Interest on bank deposits, sinking fund and other investments and dividends	354,162	309,612	285,883	248,532	244,439	192,110	241,515	168,686	140,205	170,366
Subsidies and refunds:										
Government (except loans and schools)	17,053	18,638	20,388	20,611	16,185	24,419	22,332	18,498	19,358	15,439
Moneys loaned or invested (including sinking funds and special deposits)	1,599,386	1,662,182	916,784	444,724	512,083	292,122	26,481	294,746	359,220	552,292
Loans:										
Money borrowed for current expenses	2,215,732	1,849,188	1,377,426	1,991,123	2,214,476	2,874,212	2 654,513	3,961,752	4,622,735	2,777,851
Money borrowed on debentures—										
For school purposes	* 233,046	50,000	135,500	213,500	67,000	15,000	380,522	138,745	1,426,717	4,855,674
For all other purposes	2,769,823	2,462,888	2,892,152	2,692,179	4,413,452	2,771,889	2,788,956	3,604,225		
Miscellaneous	† 335,039	299,766	336,975	235,511	187,974	395,797	721,667	1,683,081	417,992	456,336
Totals	14,780,710	13,891,233	13,146,999	12,794,043	14,669,207	13,722,767	13,423,011	16,305,550	12,607,732	14,622,631
DISBURSEMENTS.										
Expenses of municipal government:										
Allowance, salaries and commissions	188,219	192,948	199,288	174,900	153,305	159,147	154,754	154,844	154,237	150,365
Printing, advertising, postage, stationery	37,406	35,998	31,346	36,151	32,313	37,982	31,457	37,685	39,922	38,106
Insurance, heating, lighting buildings	46,892	46,074	30,175	88,265	50,723	53,512	47,827	72,148	35,708	28,371
Law costs (including salaries)	54,270	65,056	62,468	57,597	69,380	66,846	55,780	35,312	45,926	35,769
Lighting of streets	251,379	245,456	254,797	282,986	278,626	275,618	265,313	270 337	840,809	856,873
Water supply and fire protection	828,061	720,294	716,095	727,622	760,721	685,179	586,951	633,455		
Election of members of council	11,743	10,057	13,298	10,121	17,483	10,750	10,556	8,188	68,436	70,984
Other expenses of municipal government	89,402	68,128	111,696	71,708	64,691	81,377	59,840	61,889		
Construction works:										
Streets, bridges and parks	1,261,798	1,398,771	830,892	1,254,390	1,201,237	1,672,647	1,846,859	1,782,703	2,348,709	2,283,921
Waterworks, sewers and electric light	334,439	373,916	354,112	491,655	404,513	277,326	316,074	798,903	1,188,419	1,268,687
Buildings and other property	467,118	555,481	527,074	243,383	439,197	639,460	281,267	182,681		

Board of Health (including salaries)	67,205	68,145	63,648	59,416	78,510	70,434	77,810	114,831	105,143	110,966
Support of the poor and other charities	175,233	175,327	157,318	147,994	150,597	137,472	143,322	143,238	129,073	138,934
Administration of justice, police service, etc	526,198	508,054	508,610	517,628	516,568	510,034	516,583	535,662	489,512	470,185
Payments on schools and education	1,258,986	1,068,928	1,141,815	1,134,140	1,044,689	1,068,058	979,176	1,062,372	1,060,838	1,096,625
Investments and deposits :										
Sinking Fund investments and deposits	2,154,395	2,079,598	1,543,124	1,233,643	913,362	989,008	820,751	597,411	901,120	531,568
Other investments and special deposits	157,870	122,431	252,250	22,517	136,564	126,404	40,467	28,972		
Loans and Interest :										
Debentures redeemed { Principal	2,342,718	2,176,917	2,009,335	1,230,919	3,196,946	2,354,186	456,150	664,236	421,635	1,150,997
Debentures redeemed { Interest	1,593,108	1,632,664	1,625,955	1,590,748	1,595,713	1,566,840	1,521,264	1,395,958	1,427,955	1,295,860
Interest or discount on loans, etc	107,346	99,369	92,125	91,228	101 462	86,847	116,550	252,690		
Moneys borrowed for current expenses	1,705,883	1,250,683	1,336,975	2,332,320	2,691,441	2,065,504	4,001,716	4,900,248	2,648,523	4,026,535
Discount on debentures sold	5,010	3,625	30,219	36,010	107,758	41,888	148,393	107,291	332,866	790,712
Library	55,775	57,666	57,047	51,631	294,837	350,952	361,897	1,905,456		
Miscellaneous	245,592	345,756	482,546	363,385						
Totals	13,966,046	13,301,342	12,432,208	12,250,357	14,290,666	13,327,501	12,843,757	15,746,510	12,238,831	14,345,458
ASSETS.										
Cash in treasury (exclusive of sinking funds)	814,664	589,891	714,791	543,686	378,541	395,266	579,254	559,040	368,901	277,173
Taxes in arrears	2,194,723	2,205,219	1,992,178	1,975,909	1,818,788	1,732,209	1,555,491	1,395,387	1,239,142	1,018,218
Sinking Fund investments and deposits	8,072,637	7,381,842	6,831,025	6,277,778	6,963,222	6,425,681	5,619,138	4,785,238	4,445,573	3,912,987
Other investments (incl. special deposits)	1,777,478	1,785,394	1,833,607	1,496,880						
Land, buildings, etc	12,699,496	12,447,827	12,370,784	12,272,758	11,917,357	11,372,880	10,274,362	9,558,207		
Waterworks	10,548,642	10,481,486	10,421,768	10,398,892	10,107,936	9,439,334	9,126,394	8,921,883	19,257,915	17,221,268
Other property (cemetery, fire halls, etc.)	‡1,508,685	1,461,036	1,389,534	1,437,563	1,313,667	1,194,684	1,149,700	1,140,162		
Miscellaneous	3,902,440	3,673,267	4,016,053	3,738,741	4,017,423	4,941,034	5,455,789	5,063,179	5,110,639	2,836,608
Totals	41,518,765	40,025,962	39,569,740	38,142,207	36,516,934	35,501,088	33,760,128	31,423,096	30,422,178	25,266 254
LIABILITIES.										
Local school rates unpaid	24,129	9,368	16,562	25,988	27,194	34,185	76,582	61,343	61,917	76,002
Debentures outstanding (principal) :										
Aid to railways	2,431,057	2,443,600	2,492,981	2,165,327	2,164,754	2,212,386	2,282,075	2,279,220		
Schools	2,557,843	2,410,542	2,392 624	2,303,921	2,146,665	2,081,874	2,119,322	1,767,801		
Local improvements	9,748,620	9,663,424	10,308,596	10,606,307	10,779,224	10,041,508	9,605,061	8,057,144	27,110,712	26,096,152
Municipal works	7,487,622	7,807,042	7,676,351	7,234,656	12,716,592	14,468,464	13,878,693	13,192,235		
All other objects	16,281,386	15,521 769	14,600,678	14,142,703	6,970,919	4,594,831	5,031,220	4,956,643		
Loans for current expenses and interest	2,212,098	1,709,406	1,110,364	1,069,423	1,505,226	1,960,411	1,132,948	2,515,938	3,544,503	1,479,160
Miscellaneous	1,602,554	1,607,280	1,919,232	1,596,634	1,898,733	1,511,872	2,048,420	1,863,449	2,105,182	2,283,991
Totals	42,345,309	41,172,431	40,517,388	39,144,959	38,209,307	36,905,531	36,224,321	34,693,773	32,822,314	29,935,305

* Brantford, $13,500 ; London, $14,300 ; Ottawa, $50,000 ; St. Thomas, $45,996 ; Toronto, $106,250 ; Windsor, $3,000.

† Including $49,384 for premiums on debentures sold, as follows : Chatham, $2,138 ; Guelph, $304 ; Kingston, $2,550 ; London, $4,200 ; Ottawa, $2,942 ; St. Catharines, $2,994 ; St. Thomas, $1,183 ; Toronto, $33,009 ; Windsor, $64.

‡ Including $42,000 for electric light plant, as follows : Chatham, $17,000, and Windsor $25,000.

FINANCIAL STATEMENT—COUNTY MUNICIPALITIES.

TABLE XII. Summary statement showing for all County Municipalities of Ontario the aggregate totals of the several items of Receipts, Disbursements, Assets and Liabilities for the ten years ending December 31st, 1889-98.

Schedule.	1898.	1897.	1896	1895.	1894.	1893.	1892.	1791.	1890.	1889.
RECEIPTS.	$	$	$	$	$	$	$	$	$	$
Balance from previous year	227,866	222,663	221,381	224,203	262,914	347,192	303,802	298,066	275,552	375,556
Ordinary municipal revenue:										
Rates from local municipalities	1,047,924	1,097,689	1,111,043	1,243,999	1,258,060	1,231,039	1,372,862	1,303,572	1,312,795	1,244,209
Licenses	14,227	12,378	12,357	12,573	13,097	14,013	12,843	12,602		
Fees, rents, tolls, fines, etc	11,573	12,454	24,939	25,557	24,966	29,539	33,394	35,100	83,882	104,697
Surplus fees from registrar	10,957	13,292	16,951	13,626	13,351	16,365	19,636	20,270		
Interest on deposits and dividends on investments	17,475	16,101	34,058	30,501	33,063	31,215	33,638	49,433	45,259	44,202
Loans:										
Money borrowed for current expenses	557,227	672,967	742,454	581,717	752,801	697,950	627,984	640,987	466,258	441,589
Money borrowed on debentures	119,863	117,516	200,419	65,300	301,600	158,323	27,900	248,470	114,847	58,178
Non-resident taxes collected	73,120	81,235	71,176	99,044	88,459	95,026	103,997	107,513	93,130	101,671
Towns or cities separated from county for various services	79,175	97,267	107,562	95,797	102,615	96,147	98,139	94,891	101,800	91,279
Subsidies and Refunds:										
Refund of moneys loaned or invested	95,195	35,530	422,318	226,492	381,353	216,612	207,475	459,897	133,275	175,176
Received from Government:										
For schools	147,418	149,606	142,717	144,095	142,180	139,714	140,461	143,050	142,943	144,194
For administration of justice	146,726	171,541	148,916	161,820	141,868	122,261	120,658	144,545	139,312	120,926
For other purposes, except loans	128	8,144	12,167	194	4,464	209	4,141	29,339	33,273	34,010
Miscellaneous	59,791	97,506	85,166	28,232	48,469	111,718	37,838	40,484		
Totals	2,608,665	2,805,889	3,353,654	2,953,150	3,570,260	3,307,323	3,144,768	3,628,219	2,942,326	2,935,687
DISBURSEMENTS.										
Expenses of municipal government:										
Attendance at meetings of council and committees	38,934	43,443	72,772	62,740	67,512	67,100	63,959	67,920	64,132	59,617
Allowances, salaries and commissions	71,617	74,508	75,669	77,113	77,472	82,234	84,771	89,555	94,412	93,737
Printing, advertising, postage and stationery	24,876	26,548	25,650	22,664	22,113	22,921	21,593	22,726	23,275	20,783
Insurance, heating, lighting and care of buildings	33,628	32,448	38,335	31,395	37,389	43,257	37,939	30,972	29,423	27,801
Law costs (including salaries)	7,807	6,453	19,058	11,489	28,334	17,209	11,181	11,461	29,459	28,174
Other expenses	19,825	22,744	11,816	15,360	16,393	17,187	18,394	20,654		

Construction works:											
Roads and bridges	136,491	125,909	107,621	109,030	195,095	217,302	194,941	235,411	225,913	197,014	
Grants to local municipalities for roads and bridges	18,252	26,244	39,621	39,621	63,808						
Buildings and other works	140,330	24,211	76,963	58,912	29,963	70,487	75,614	80,556	100,980	75,152	
Support of the poor and other charities	87,495	88,782	80,486	66,856	70,548	60,425	61,182	61,794	56,678	56,961	
Administration of justice, gaol maintenance, etc	447,054	468,832	461,634	485,032	455,714	420,373	436,197	423,350	438,453	433,502	
Grants to schools and other payments for education	361,215	360,176	410,249	490,081	475,245	477,940	467,893	452,795	427,510	428,048	
Sinking Fund investments and deposits	39,452	52,525	125,417	182,622	229,430	260,527	123,814	174,607	179,823	214,223	
Other investments and special deposits	25,000	37,321	32,798	10,000							
Loans and interest:											
Debentures redeemed:											
Principal	141,914	163,391	546,900	137,209	382,894	350,548	243,595	645,834	191,700	241,280	
Interest	91,914	88,379	116,423	119,928	133,768	143,712	151,618	179,572	201,819	209,820	
Interest or discounts on loans, advances, etc	16,911	18,676	21,651	21,266	22,321	18,439	18,033	16,366			
Refund of money borrowed for current expenses	613,537	704,425	735,743	638,216	832,107	626,091	619,997	614,578	390,072	376,290	
Non-resident taxes paid local municipalities	66,343	83,313	75,288	112,915	94,583	95,820	112,247	98,056	95,589	103,177	
Miscellaneous	46,432	129,695	55,897	39,320	111,368	52,837	54,608	68,207	95,022	94,556	
Totals	2,429,027	2,578,023	3,130,991	2,731,769	3,346,057	3,044,409	2,797,576	3,324,417	2,644,260	2,660,135	
ASSETS.											
Cash in treasury	179,638	227,866	222,663	221,381	224,203	262,914	347,192	303,802	298,066	275,552	
Rates due from local municipalities	531,222	550,055	587,538	663,043	668,960	654,171	550,787	609,513	613,135	632,587	
Sinking Fund investments and deposits	212,386	220,010	181,015	449,916	520,216	672,739	628,824	712,465	1,164,169	1,117,887	
Other investments and special deposits	34,400	57,519	42,198	36,400							
Land, buildings, furniture, etc	3,229,542	3,143,600	3,175,066	3,140,808	3,106,261	3,008,195	3,046,160	2,973,377	2,942,390	2,942,571	
Miscellaneous	151,806	156,851	153,955	187,401	191,831	326,994	345,897	315,535	225,260	236,142	
Totals	4,338,994	4,355,901	4,366,435	4,698,979	4,711,474	4,925,013	4,918,860	4,914,692	5,243,020	5,204,739	
LIABILITIES											
School grants unpaid	11,524	10,903	12,642	36,585	35,954	40,249	48,669	34,058	32,938	39,568	
Debentures outstanding (principal for):											
Aid to railways	322,000	419,712	408,233	548,848	740,474	783,747	927,925	1,023,718	3,144,008	3,220,860	
Schools	.....	.....	1,036	2,023	2,963	3,898	4,710	5,562			
All other objects	1,459,056	1,383,395	1,439,713	1,633,392	1,516,735	1,551,947	1,599,180	1,718,231			
Loans for current expenses and interest due on same	*327,025	387,249	425,383	404,252	459,674	538,982	467,123	459,477	457,485	381,299	
Local municipalities for non-resident taxes collected	25,889	19,112	21,540	30,070	18,518	19,717	20,510	28,840	19,269	23,461	
Miscellaneous	68,664	88,700	60,142	54,150	69,199	73,278	91,750	83,993	101,782	113,972	
Totals	2,214,158	2,309,071	2,368,689	2,709,320	2,843,517	3,011,818	3,159,867	3,353,879	3,755,482	3,779,160	

* Including $18,456 due Sinking Funds, as follows: Dufferin $230, Hastings $5,000, Huron $5,091, Northumberland and Durham $2,000, Peterborough $6,135.

FINANCIAL STATEMENT—CITY MUNICIPALITIES.

TABLE XIII. Showing an abstract statement of Receipts, Disbursements, Assets and Liabilities of the cities of Ontario for the year ending December 31, 1898.

Schedule.	Belleville.	Brantford.	Chatham.	Guelph.	Hamilton.	Kingston.	London.	Ottawa.	St. Catharines.	St. Thomas.	Stratford.	Toronto.	Windsor.
RECEIPTS.	$	$	$	$	$	$	$	$	$	$	$	$	$
Balance from 1897	338	2,727	3,260	11,556	5,479	3,657	31,342	....	3,423	7,910	13,213	505,411	1,576
Municipal and school taxes	79,103	131,414	85,302	95,846	547,036	136,018	379,713	483,886	94,205	103,376	82,432	2,698,87	161,607
Liquor licenses	2,837	2,837	2,495	2,481	9,736	7,669	2,923	16,256	2,470	3,329	2,269	32,687	3,286
Other licenses	993	891	603	314	4,212	1,262	2,443	2,364	1,112	1,112	545	30,706	657
Fees, rents, tolls, fines, etc	3,401	3,838	1,809	2,953	35,266	4,492	20,390	28,010	4,052	1,798	786	299,268	2,825
Water rates, electric light rates, etc	.....	29,905	14,745	14,091	175,623	30,288	67,706	167,419	25,088	16,788	.....	466,014	32,725
Interest on investments and dividends	1,954	9,111	1,713	7,865	7,382	3,948	21,628	78,029	3,398	2,747	3,454	203,645	9,288
From Government (except for loans and schools)	.....	.....	.....	212	9,968	.....	298	326	212	.....	....	5,824	213
Refund of moneys loaned or invested	6,336	89,147	.....	.....	19,483	104	233,389	8,236	6,463	4,290	28,469	1,201,398	2,011
Loans:													
Money borrowed for current expenses	75,000	30,897	1,556	.....	123,516	33,665	177,245	204,371	50,009	142,500	124,031	1,126,388	123,554
Money borrowed on debentures	13,000	49,397	46,945	9,711	6,854	76,106	566,385	402,021	110,402	95,662	45,716	1,569,298	11,372
Cemetery	.....	1,660	640	.....	2,866	.....	.....	....	957	.....	1,016	.....	.....
Miscellaneous	1,012	6.100	5,294	1,014	16,059	5,353	13,841	77,351	3,421	3,372	380	*192,890	1,813
Totals	184,034	357,924	164,362	146,043	963,480	302,562	1,517,303	1,468,269	305,212	382,884	302,311	8,332,400	353,926
DISBURSEMENTS.													
Expenses of municipal government:													
Election of members of council	195	421	178	112	608	650	1,600	789	110	200	413	5,757	710
Allowances, salaries and commissions	3,741	5,118	3,771	4,030	22,905	7,280	14,072	22,843	4,950	3,263	3,873	87,692	4,681
Printing, advertising, postage, stationery	1,498	1,194	826	532	2,003	1,483	4,468	3,934	731	1,014	1,587	17,337	799
Insurance, heating, lighting and care of buildings	1,548	3,750	548	1,742	4,855	2,019	5,619	6,928	1,240	704	333	16,665	941
Law costs (including salaries)	1,004	1,589	1,693	300	5,593	1,069	3,380	3,236	569	.. ..	719	33,896	1,222
Lighting of streets	6,378	6,748	3,986	5,850	35,009	7,858	24,167	27,390	7.338	7,591	4,987	107,326	6,751
Water supply and fire protection	12,270	34,408	17,567	12,534	82,933	22,929	38,973	119,488	22,248	18,182	8,631	413,569	24,329
Other expenses of municipal government	2,444	1,706	1,879	436	13,163	2,884	14,810	6,990	958	1,467	336	41,301	1,028
Construction works:													
Streets, bridges and parks	12,051	17,857	9,823	14,341	88,308	18,752	51,951	157,567	24,501	27,408	10,337	818,213	10,689
Waterworks, sewers and electric light plant	1,117	10,009	35,678	14	55,171	4,356	111,941	20,375	3,483	... ...	15,978	75,826	491
Buildings and other property	.....	25,385	3,407	... .	12,895	....	43,678	67,187	1,094	†30,165	12,405	270,902	.....

Board of Health (including salaries)	132	693	913	699	9,129	885	2,494	11,727	981	1,097	701	35,567	2,187
Support of the poor and other charities .	1,691	5,810	2,301	3,570	47,679	3,031	16,985	1,940	2,153	4,486	1,849	80,980	2,758
Administration of justice, police service.	9,874	7,003	6,032	7,908	60,705	15,936	38,714	44,587	5,653	7,810	4,833	309,461	7,649
Payments on account of schools and education	18,224	50,429	19,005	23,600	113,359	35,200	114,774	150,978	22,215	59,584	21,870	598,024	31,724
Sinking fund investments and deposits..	6,594	30,377	.....	18,974	50,439	5,110	211,367	134,534	6,886	5,781	24,684	1,624,068	36,081
Other investments and special deposits..	.....	45,904	.....	.....	.....	710	62,004	.....	4,336	1,000	41,868	.....	2,018
Loans and interest:													
Debentures redeemed. { Principal	.....	48,845	13,333	6,600	53,640	24,742	336,437	103,977	97,289	31,346	950	1,594,839	30,720
{ Interest	20,818	39,630	22,695	28,334	150,336	42,739	114,594	199,633	37,296	26,844	19,440	845,569	45,180
Interest or discount on loans, etc	3,187	422	6.211	572	5,125	3,910	5,407	19,112	2,716	1,189	3,163	52,977	3,355
Discount on debentures sold.....	.....	.....	.....	.....	.....	.....	1,260	.....	.....	1,020	.....	2,730	.....
Refund of moneys borrowed for current expenses	73,000	.....	5,448	7,000	123,069	39,966	239,018	352,282	49,296	137,000	115,009	431,235	133,569
Cemetery	.....	1,252	1,037	.....	4,380	.....	.....	.....	1,555	.....	1,141	.....	.....
Library	100	2,600	1,400	1,808	9,342	300	7,289	.....	1,976	950	800	26,302	2,908
Miscellaneous	545	‡11,348	1,464	1,047	8,586	¶44,074	6,225	12,772	3,803	621	6,366	‖136,118	3,258
Totals.	176,411	352,498	159,195	140,003	959,232	285,883	1,471,227	1,468,269	302,877	368,752	302,264	7,626,357	353,078
ASSETS.													
Cash in treasury (exclusive of sinking fund)	7,623	5,426	5,167	6,040	4,248	16,679	46,076	.....	2,335	14,132	47	706,043	848
Taxes in arrears	63,577	3,514	26,600	13,356	363,083	64,140	48,960	573,400	34,997	16,751	30,754	909,272	46,319
Sinking fund investments and deposits .	29,572	141,022	.....	131,839	194,695	27,402	265,095	1,256,254	15,773	84,210	62,403	5,640,563	223,809
Other investments (including special deposits	§25,200	130,595	1,103	193,000	118,736	22,610	1,027,861	39,033	180,227	1,000	36,065	.. ..	2,048
Land, buildings, library, etc	97,495	209.462	125,500	119,710	823,165	239,849	516,121	481,350	119,376	82,146	38,087	9,798,18	*a*49,050
School property (including equipment)	90,000	138,350	125,000	107,800	615,103	115,000	292,800	324,200	63,941	91,700	95,000	1 909,586	173,400
Waterworks	.....	257,819	170,000	144,950	1,725,287	335,749	780,393	2,000,000	385,059	150,000		4,349,385	250,000
Other property (cemetery, fire halls, etc.)	.....	28,163	38,500	8,000	*b* 810,065	30,504	14,750	156,000	45,730	10,700	23,500	299,773	43,000
Miscellaneous	30,932	217,259	57,153	59,172	164,805	93,939	50,613	642,979	130,530	97,728	3,475	2,165,890	187,965
Totals.	344,399	1,131,610	549,023	783,867	4,819,187	945,872	3,042,669	5,473,216	977,968	548,367	289,331	25,778,697	976,439
LIABILITIES.													
Local School rates unpaid	.....	... .	74	1,121	.....	1,441	1,967	19,198	328	.....	.....	.... ..	.....
Debentures outstanding (principal):													
Aid to railways	.....	50,000	.....	193,000	250,000	133,786	325,000	145,000	119,627	10,926	60,000	1,143,718	.. ...
Schools	8,500	73,032	.....	15,700	256,058	69,400	86,300	247,400	8,000	47,596	28,500	1,616,369	100,988
Local improvement	17,664	167,749	93,189	75,917	39,570	129,139	228,249	571,159	10,936	176,958	45,637	7,866,287	326,166
Municipal works.....	.... ..	250,000	180,360	67,900	273,665	275,800	830,629	1,474,584	30,000	131,917	... .	3,843,287	129,480
All other objects	421,000	385,433	298,422	249,300	2,754,498	367,400	1,310,873	1,863,499	699,733	199,372	318,500	7,133,812	279,544
Loans for current expenses.....	65,000	30,897	107,874	20,000	123,516	*c* 33,665	17,245	547,940	43,009	12,500	36,031	1,126,388	48,033
Miscellaneous	280	32,102	3,197	4,538	14,850	20,516	230,977	154,033	4,162	11,693	1,300	1,124,112	794
Totals	512,444	989,213	683,116	627,476	3,712,157	1,031,147	3,031,240	5,022,813	915,795	590,962	489.968	23,853,973	885,005

* Including :—Premiums on debentures, $33,009 ; contractor's deposits, $84,398. † New City Hall. ‡ County, $3,318. ¶ Including $41,000 bonus. ‖ Including $83,151 contractors' deposits refunded. § Omitting $30,000 Bay of Quinte bridge stock written off. *a* Including $14,000 interest in County Buildings not formerly reported. *b* Including $743,917 for sewage disposal system. *c* Omitting $6,390 overstated in 1897.

MUNICIPAL EXEMPTIONS.

TABLE XIV.—Statement showing by municipalities the "exemptions from general rate by by-law but subject to school tax," for the year 1899.

NOTE —These are entirely exclusive of statutory exemptions, but a few are given in which the by-law exempted from all taxes. Complete returns, however, have not been received at this date.

Muuicipalities.	For all purposes except Schools.	Totally exempt by By-law.	Municipalities.	For all purposes except Schools.	Totally exempt by By-law.
	$	$		$	$
TOWNSHIPS:			TOWNS.		
Alberton	1,400		Berlin	76,100	
Billings	1,500		Bothwell	30,820	
Bonfield		5,560	Bowmanville	4,000	
Burpee		* 800	Bracebridge		15,000
Carling	4,050		Brockville		138,947
Chapman	2,700		Cobourg	70,000	
Eastnor	6,000		Collingwood	10,000	
Faraday		† 1,333	Dundas	25,600	
Gloucester	1,000		Forest	5,500	
Grimsby South	5,108		Fort William	137,245	
Hilton	1,150		Galt	46,200	
Himsworth North		7,500	Gananoque	46,000	
Huron	1,100		Goderich	101,500	
Keppel	9,900		Harriston	9,500	
Lochiel	3,000		Hawkesbury	§10,000	
Orillia	14,000		Kincardine	24,900	
Ratter & Dunnet	2,200		Lindsay	20,650	
Rayside	6,000		Listowel	14,000	
Ross	1,800		Little Current	2,000	
Sandwich West	4,340		Milton		2,500
Sheffield	1,500		Mount Forest	‖	
Springer	1,800		Niagara	2,117	
Walpole	2,600		Niagara Falls	59,450	
Whitchurch	7,530		Oakville	3,500	
Zorra East	6,000		Orangeville	500	
VILLAGES:			Oshawa	20,600	¶8,000
Acton	10,800		Owen Sound	380,610	
Athens	1,550		Palmerston	15,000	
Beeton	8,000		Paris	28,590	
Belle River	2.050		Parkhill	5,500	
Brussels	6,850		Parry Sound	8,500	
Burk's Falls	15,000		Penetanguishene	30,200	
Burlington	1,800		Perth	27,000	
Cardinal	50,000		Peterborough	49,090	
Chesley	11,650		Port Arthur	19,700	296,520
Drayton	3,500		Port Hope	26,150	
Dunnville	19,000		Prescott		101,400
Exeter	†† 6,500		Sarnia	8,000	
Fergus	3,500		Sault Ste. Marie	** 750,000	
Glencoe	5,500		Seaforth	4,000	
Hastings	1,500		Sturgeon Falls	30,000	
Havelock	3,500		Thessalon	4,700	
Huntsville		‡ 70,000	Thorold	6,050	
Kemptville	15,000		Toronto Junction	236,590	
Kingsville	5,000		Trenton	133,786	
Lakefield	39,000		Walkerville	20,155	
Lanark	4,000		Wallaceburg	24,000	
Markham	8,000		Whitby	10,000	
Newburg	2,000	2,000	Wiarton	6,000	
Newcastle	1,734		Wingham	17,379	
New Hamburg		6,500	Woodstock	108,000	
Norwich	11,100				
Norwood	1,000		CITIES:		
Ottawa East	11,080		Chatham	591,600	
Port Elgin	10,700		Guelph	36,800	
Southampton	20,000		Hamilton	995,160	
Springfield	3,000		London	50,550	349,242
Tilbury	1,200		Toronto	1,655,870	
Watford	5,200		Windsor	146,575	

* Properly taxed for schools in 1900. † $2,000 property fixed at $667 for 10 years. ‡ Tannery $40,000 Real property and $30,000 Personal, the exemption expiring June 9th, 1900. § Paper mill pays school taxes only on $10,000. Lumber mill pays all taxes on $27,000 fixed for ten years. The two properties aggregate $1,000,000. ‖ $43,105 exempt to an average of 3 mills. ¶ Malleable Iron Co. taxes fixed at $175, being an exemption of $8,000. ** $750,000 pays a fixed school tax of $5,000. †† In addition $21,585 in farm lands is exempt on village rate over 3½ mills.

ANNUAL REPORT

OF THE

BUREAU OF INDUSTRIES

FOR THE

PROVINCE OF ONTARIO.

1900.

PART I.—AGRICULTURAL STATISTICS.
PART II.—CHATTEL MORTGAGES.

(PUBLISHED BY THE ONTARIO DEPARTMENT OF AGRICULTURE, TORONTO.)

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TORONTO.

NINETEENTH ANNUAL REPORT

OF THE

ONTARIO BUREAU OF INDUSTRIES.

PARTS I. AND II.

1900.

To the Honorable the Minister of Agriculture:

Sir,—I have the honor to present herewith Part I. of the Nineteenth Annual Report of the Bureau of Industries, being the Agricultural Statistics of Ontario for the year 1900; also Part II. relating to Chattel Mortgages.

I have the honor to be, Sir,

Your obedient Servant.

C. C. JAMES,
Secretary.

Toronto, August 28th, 1901.

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ONTARIO BUREAU OF INDUSTRIES.

PART I.—AGRICULTURAL STATISTICS.

THE WEATHER.

Among the most important factors in the growing of crops are the character of the soil and the nature of the tillage; but in addition to these the range of temperature and the extent and distribution of the precipitation are also to be taken into consideration, as well as the amount of sunshine afforded for the proper maturing of certain plants, grains and fruits. The following table gives the records of temperature, rain and snow fall, and sunshine, during certain periods which may be regarded as the growing season of 1900.

TEMPERATURE. The following table gives the average temperature of the Province for the calendar year, the mean for the six months from April to September inclusive—practically the growing season—for the past ten years, and also the average for the nineteen years, 1882-1900.

Months.	1900.	1899.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	1882-1900.
	°	°	°	°	°	°	°	°	°	°	°
January	21.9	18 7	20.2	19 5	18.4	17.3	23.1	10.3	17.0	20.9	17.6
February	17.1	15.2	22.0	21.8	19.2	14.5	16.9	14.7	21.9	23.4	18.2
March	20 5	25.8	35 6	29.0	21 2	21.5	34.9	26.4	25.2	26.2	25.3
April	44.8	44.5	42.1	42.7	46 3	43 3	44.3	38 7	40 3	43.0	41.6
May	54.6	55.7	55.5	52.9	60.1	56.9	53.7	52.2	52 2	51.9	53 7
June	64.1	64.8	65.6	60.9	64.8	68.0	66.1	67.6	65 4	65.4	64 2
July	68.2	67.5	70.2	71.9	68 8	65.5	69.1	68.3	68.3	63 7	67.7
August	70.9	68.5	67.7	64.2	67.2	65.3	64.0	66.1	66 6	64.8	65.8
September	62.3	56 2	61 8	60.8	56 8	60.5	61.1	56.0	58.8	61.5	58.5
October	55.2	50 0	48.7	50.1	43.4	41.4	48 8	48.2	46 6	46.1	46.6
November	35.3	38.0	34 9	34.9	37.8	34.5	31.6	35.1	33.1	35.1	31.9
December	21.7	25.1	22.8	24.6	24.1	25.8	27.7	20.7	21.8	31.5	24.3
Annual mean	45.0	44.2	45.6	44.4	44.0	42.9	45.1	42.0	43.1	44.5	43.2
Mean for six months April-September	60.8	59.5	60.5	8.9	60 7	59 9	59.7	58.2	58.6	58.4	58.6

The ten stations from which the above averages are derived are situated at Saugeen (Bruce Co.), Birnam (Lambton), London (Middlesex), Woodstock (Oxford), Stoney Creek (Wentworth), Toronto (York), Lindsay (Victoria), Gravenhurst (Muskoka), Ottawa (Carleton) and Rockliffe (Renfrew). The details will be found in Tables I and II (pages 18 and 19).

The mean temperature for the six months April-September was 60.8, being 2.2 above the average for the nineteen years, and exceeding the record of any year in the table. The mean temperature for the whole year was 45°, being 1.8° above the average for the nineteen years, although failing to reach the records for 1894 and 1898. February was the coldest month in 1900 and August the hottest; while for the nineteen years' period January was the coldest month and July the hottest.

Precipitation. The following table gives the fall of rain and snow in the winter months for ten years, together with the average for the nineteen years 1882-1900. An inch of rain is the equivalent of ten inches of snow.

Year.	November.		December.		January.		February.		March.		Total for five months.	
	Rain.	Snow.	Rain.	Snow.	Rain.	Snow.	Rain.	Snow.	Rain.	Snow.	Rain.	Snow.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1900.....	1 13	1.0	2.15	14.5	0.72	15.8	1.68	26.8	0 53	18 8	6.21	76.9
1899	1.67	9.6	0.74	24.6	1.50	13 2	0.76	8.0	1.78	22.1	6.45	77.5
1898	3.40	8.9	1 73	17.5	1 47	18.2	0.60	18.9	2.42	1 0	9.62	64.5
1897.....	2.51	6.2	0.37	9 6	1.15	17.3	0.89	14.1	1.52	12.7	6.44	59.9
1896.....	2.47	7 7	2.22	13 2	0 65	17.1	0 46	24.5	0.74	11.4	6.54	73.9
1895.....	0 78	11.4	1.49	6.6	0.77	31.3	0.08	12.0	0.41	10.8	3.53	72.1
1894.....	1.97	9.9	1.85	26.2	0 91	14 0	0.59	15.1	1.15	4.8	6.47	70.0
1893.....	2 09	10.8	0.68	11.6	0 43	25.5	0.73	24.3	1.19	5.4	5.12	77.6
1892.....	3.91	7.4	1.84	6.4	0.44	21 7	0.66	16.7	0.50	7.7	7.35	59.9
1891.....	2.46	4.3	0.35	20 1	1.37	13.9	1 77	13 3	1.46	19.7	7.41	71.3
1882-1900....	2 13	8.4	1.35	15.3	1.05	20.3	0.97	16.7	1.07	11.9	6.57	72.6

The rainfall of the Province for the five months was 6.21 inches, or .36 inch less than the average for the nineteen years. The snowfall, however, measured 76.9 inches, or 4.3 inches more than the average for the years 1882-1900. December was the only month that closely approached its own record for both rain and snowfall, the month of November being farthest from its average in this respect. The snowfall of February exceeded that of any month during the ten years, and that month also has the largest average snowfall.

The growing season, however, is limited mainly to the six months April-September, and the following table gives the rainfall during these months for the past ten years, together with the averages for nineteen years 1882-1900.

Months.	1900.	1899.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	1882-1900.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
April	1.44	1.10	1.45	2.52	1.26	1.49	0 99	2.61	1.15	1.77	1.52
May	2.03	3.43	2.43	3.38	2.10	2.36	5.72	3.35	3.64	1.07	2.84
June.....	2.83	2.46	2.83	2.83	2.39	1.37	2.32	3.15	4.54	1.84	2.80
July	3.96	2 78	1.11	5.36	2.79	2.02	1.72	2.44	2.73	3.50	2.63
August.....	2.15	0.81	2.64	2.62	2.86	2 81	0.84	2.67	4.26	3.93	2.50
September	2.73	3.72	2.94	0 83	4.47	2.67	3.73	1 94	3.84	2.03	2.62
Total for six months	15.14	14.30	13.40	17.54	15.87	12.72	15.32	16.16	20.16	14.14	14.91

The total rainfall for the six months was 15.4 inches, or 1.77 inches more than the average for the nineteen years. July was the wettest month in 1900, although third in the record for precipitation for the 1882-1900 period; while April is credited with the least rainfall both for the year and for the nineteen years' period.

Sunshine. In the following table a comparison of each of the months of the year is given for the past ten years of the average hours of sunshine in the Province, as derived from the records of the stations at Woodstock, Toronto, Barrie, Lindsay and Kingston. The average for the nineteen years 1882 1900 is also given, as well as the totals for the calendar year, and for the six months April-September.

Months.	Sun above horizon.	1900.	1899.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	1882-1900.
	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.	Hrs.
January...	285.7	77.1	90.8	76.2	70 4	52 3	73 0	74.5	64 0	72.8	62.6	69.2
February..	291.4	109.8	112.8	69.3	93 7	104 0	110.2	124.2	93.8	93 6	89.8	93.8
March ..	369.9	161.4	133.2	157 5	148.3	188 1	179.6	127.5	150.4	174.9	139.0	151 6
April	406.4	214.0	223.2	230.2	174 2	180.3	195.1	212.9	148.5	215 2	190.7	195 1
May	461.1	247.9	210.9	196.3	196 9	262.1	252.1	181 7	211 1	165.4	229 6	213.2
June	465.7	305.3	278.2	237.1	219.8	302 1	286 3	244.6	247.8	201.4	245 5	252 0
July	470.9	266.3	302.2	307.8	258.7	237.8	232.4	276 2	284.2	315.1	249.2	272.9
August....	434.5	271.4	262.1	225.2	262 4	262 6	228.0	207 3	259.0	231.6	217.3	242.6
Sep ember.	376.3	190.0	164.4	202.4	237.1	168.0	194.2	156.4	175.8	218.2	231.0	193.0
October ...	340 2	164.0	141.7	118 2	161.0	135 5	149.0	129 4	150 0	145.6	160.1	133 3
November .	286.9	82.4	78 6	89.0	60.8	69 8	79.3	64.7	81.3	35.1	69.3	67.4
December .	274.3	46.6	60.2	56.6	40 6	80.8	57.1	65 5	55.8	56.6	89 7	56 5
Total for the year.	4463.3	2136.2	2058 3	1965.8	1923.9	2043.4	2036.3	1864.9	1921.7	1925 5	1973.8	1940 6
Total for 6 months Apl.-Sep.	2614.9	1494.9	1441.0	1399.0	1349 1	1412.9	1388.1	1279.1	1326 4	1346 9	1363 3	1368.8

The total number of hours registered in the year was 195.6 more than the average for the nineteen years ; while for the six growing months 126 more hours than usual were recorded, or about 57 per cent. of the possible.

Details of temperature, precipitation, and sunshine are given in Tables I. to VII. of this Report.

VEGETATION.

When correspondents wrote on the 1st of May the growing season was described as being rather backward, owing to the prevalence of frosts and cold winds, and the lack of rain. The grass was in excellent condition, and had made a good start, although in some localities it was too short and scanty for the pasturing of cattle, but the prospects were favorable for a bountiful yield if rains and warm weather set in. So far as there was any difference by reason of locality, the season seemed a little more advanced in some of the eastern frontier counties than in the west. The buds of fruit trees and shrubs were swelling, and the forest trees appeared to be about as well advanced as usual.

Spring Seeding. The coldness of the season somewhat retarded spring sowing, which was commenced some time later than the customary date in most places. The ground was generally in good condition to receive the seed, the principal exception being as to clay soils, which frequently proved difficult to work, being stiff and lumpy. In the western portion of the Province the soil was generally dry, and rain was badly needed in some places, while in many eastern counties it was too wet to be satisfactorily worked, excepting on the uplands or in the case of light soils. Owing to the backwardness of operations it was difficult to compare the extent of the area sown with the average, but a few correspondents considered that there would probably be an increase, one reason given being the extent to which the clover was killed out last season. The same cause prevented any forecast of the season's prospects from the appearance of young crops, which were then only in evidence in very few instances. Spring sown grass and clover, where they had come up, were looking thrifty.

THE GRAIN CROPS.

Fall Wheat. Judging by the tone of the reports received in November, 1899, it was thought that the area of fall wheat then newly sown would be less than that of the crop cut that year, but the actual figures showed an increased acreage. The time of seeding covered a wider range than usual, owing to the dryness of the ground, which induced many farmers to postpone sowing until late in the season in the hope of getting rain. As usual, most of the work was done in the earlier half of September, the ground in most localities being in good condition, apart from the lack of moisture. The young plants were generally looking well as correspondents wrote, having received the benefit of later rains, and, although somewhat backward in places, seemed promising, and covered the ground well, having a heavy top. There were few complaints of insect pests, except that Hessian fly, joint-worm, and wire worm had done some damage.

May reports on fall wheat were on the whole favorable, and were to the following effect: "The general tenor of the reports as to the condition of fall wheat is decidedly favorable, the crop having in most localities stood the winter well and promising excellently, provided there is a sufficient supply of moisture. The principal cause of injury has been the formation of ice on level or low-lying lands from water which collected in pools after the melting of the snow, by which many young plants were killed, and the fields left uneven and patchy. The drifting of snow also caused some loss. Opinions as to the kind of soil upon which the crop made the best showing are so variable and contradictory as to preclude any conclusion being drawn from them. One point on which there is practical unanimity among correspondents, however, is the advantage of drainage. The crops on high and dry land, whatever the character of the soil, wintered well with few exceptions, while those on wet, undrained ground suffered badly. A favorable feature of the situation is the general absence of destructive insect pests, the only mention of such being in connection with a few western localities where the Hessian fly and wire worm were in evidence, though the damage inflicted by them has been slight. Very little of the land sown to fall wheat will need to be plowed up. The crop in some parts, especially in the east, is beginning to require rain."

The statements of correspondents received in August justified the expectations of May, as will be seen by the following report made regarding the crop: "The yield of fall wheat is above the average, notwithstanding the losses sustained by winter-killing on low and undrained land and the injury occasioned by dry backward weather in spring in many localities. The crop has been harvested for the most part in excellent condition, the heads being large and well filled, and the grain plump with the straw bright and clean. It is free from rust or smut except in a few instances. The grain ripened somewhat unevenly, and in some parts was over-ripe when cut, and shelled when handling. The weather was as a rule highly favorable for harvesting operations, which took place in the great majority of cases from the middle to the end of July. Several correspondents note better returns from early than from later sown wheat. The principal cause of injury next to the losses from frost was the ravages of the Hessian fly, which was reported more especially in the western part of the Province. The cut-worm and other pests also did some damage. In the St. Lawrence and Ottawa River counties, where the crop is but little grown, the returns offer little inducement for its cultivation as they are not nearly so favorable as those for the western and central section."

November reports were thus summarized: "It is many years since complaints were so common regarding the Hessian fly, more especially in the western half of the Province, where the bulk of the fall wheat is grown; but even in the face of this drawback the crop may be described as a good average one both in yield and quality, the kernel as a rule being plump, and running well to or above standard weight. The straw is said to be shorter than usual, but of good, clean quality. A few complaints were made regarding injury from joint-worm."

The New Fall Wheat. The following reference to the new fall wheat was made in the November bulletin: "Correspondents in the fall wheat counties of the western part of the Province are divided as to the area of new wheat compared with last year, although it is probable that decreases and increases will about balance themselves, and give an average acreage. In the eastern part of the Province, there is a decided gain in the area grown. The period of sowing ranged from the last week of August to the third week of October, the bulk of the crop being put in about the middle of September. While some complain of a dry seed bed, the majority of the reports speak of a good catch, and in a number of instances the growth has been so rank that cattle have had to be turned into the fields to eat off the tops of the plants. In the western half of the Province the Hessian fly has been attacking the new wheat, but in the counties east of York little or no mention is made of this pest. Over forty different sorts of fall wheat are mentioned as growing, the favorite varieties being Dawson's Golden Chaff, Clawson, and Genesee Giant."

Spring Wheat. A large portion of the crop was unharvested at the time our correspondents wrote early in August. The yield was then expected to be in excess of the average, although the conditions had not been altogether favorable. Owing to drouth the straw was short and weak in many neighborhoods, and some of the crop lodged. Where the crop had been secured it was usually in good condition and satisfactory as to quality. The Goose wheat variety

was very largely grown. In the eastern section of the Province some damage from heavy rainstorms was noted, more especially on low-lying lands. Rust and smut appeared in some places, but little mention was made of any injury from insect pests.

The reports in November were to the effect that this crop, especially where early sown, is well spoken of, both as regards yield and quality ; but later sown was inclined to be somewhat shrunken in the berry. The straw generally was shorter than usual, and late sown had a tendency to rust owing to rain during harvest. Goose wheat was very extensively grown.

Barley. The following was contained in the August bulletin : " The yield of barley has as a rule been good, and in most localities where the harvest is over the crop has been secured in fairly good condition, the principal drawbacks noted being that the grain is in many places discolored owing to recent rains, while the straw is frequently short, slender and broken. Reports as to the quality of the berry are extremely variable, those from some quarters stating the grain is light by reason of dry weather, while elsewhere it is plump and the heads well-filled. Several correspondents note an increase in the acreage devoted to barley owing to the growing demand for feed. The beardless barley has been tried in some neighborhoods, but the results are not satisfactory. There has been but little injury from destructive insects."

Barley was referred to as follows in the November crop summary : " This cereal, like most of the spring grains, suffered to some extent from drouth, yet is looked upon as a good average crop. Regarding the quality, many call it good, while others claim that the sample was more or less discolored, owing to rain, and that it is also somewhat light in weight. The straw, as in the case of other grains, was rather short."

Oats. August reports concerning this crop were encouraging, and were to the following effect : " The oat crop this season is a very large one, the reports being favorable from nearly every county. The west will probably make a somewhat better showing than the east, the crop being a little light in the Ottawa River counties owing to injury by heavy rains. As in the case with other cereals this season the straw is generally light and short. The quality of the grain is as a rule good though the berry is small in some cases. Smut and rust have done some injury in various localities, and grasshoppers are reported as having occasioned some damage both east and west. The early sown crops appear to have given better results than later seedings, as the later suffered more from spring drouths."

The reports sent in in November thus referred to oats : " Notwithstanding complaints of drouth, smut, rust, and grasshoppers this crop came through in such a good general condition as to rank as a full average one. The grain, as a rule, is spoken of as plump, although a few complain of its being light The straw, however, is not only short, but hardly of as good a quality as usual, owing to rain at the time of cutting.

Peas. The following regarding peas was given in the August bulletin : ' Of late years peas have been a very precarious crop on account of the destruction caused by the pea bug, or weevil. For this reason many have abandoned peas, and others sow them late in the season—a plan which appears to be fairly successful. Only a comparatively small proportion of the crops had been harvested when our returns were made up, but estimates are decidedly encouraging. The vines are light in straw in most cases, but well podded and well filled, and when harvesting has taken place the sample is good. The principal causes of injury have been the pea bug, dry weather in spring, and too much rain in the extreme eastern part of the Province. Grass peas, which in some localities have been substituted for the round pea, have yielded particularly well."

In the returns from correspondents in November complaints of the ravages of the " bug " or pea weevil were so many and so strong as to be alarming. So far the Georgian Bay counties, the Northern Districts, and the East Midland group have largely escaped this pest, but nearly every other section of the Province has suffered more or less from its presence. But for this insect the crop would be reckoned as a good one, although perhaps lacking in straw.

Beans. According to the August bulletin the season had been a favorable one for beans, and it was considered that the rather limited acreage devoted to their growth would make a considerably better showing than the average. Reports from the localities in which they are grown are almost uniformly satisfactory. There had been very little injury done to the crop either by the weather or by insects.

The November reports were to the effect that beans could be classed as from fair to good. It was said, however, that there was too much rain, especially at the time of podding, for the best results.

Winter Rye. This crop is being grown more extensively than formerly, especially in stock-raising neighborhoods, being used mainly for pasturage or green fodder, though there are many localities where it is not cultivated. It had generally wintered well, though some injuries from ice, and want of snow were noted, and according to the May bulletin it presented a promising appearance, though not so far advanced as usual owing to the late spring.

Rye. August reports as to this crop were almost uniformly favorable, and the yield per acre was estimated as above the average, and generally of good quality. Rye is very little cultivated in the west, and is not extensively grown elsewhere, but several correspondents from eastern counties state that it is coming more in favor, being used largely as fodder or for green manure. In common with other cereals it suffered somewhat from winter-killing and from the dry weather in the spring.

November returns regarding rye were to the effect that it hardly deserved a place among our regular cereal crops, as it is grown in this Province chiefly for soiling. Where raised for the grain, however, it was well spoken of this season.

Buckwheat. Although buckwheat is not largely grown in the Province there appeared to be a great difference of opinion regarding its condition. A number of correspondents in November spoke of it as being a good crop, while others stated that it suffered from the hot sun. This appears to have been the only grain that was touched by frost, but only to a small degree.

Corn. In western Ontario, where most of the corn is grown for the ear, the season was wet at planting, but in the eastern part of the Province the weather was rather dry at that season. Complaints were made of injury from cut-worm, wire-worm, cabbage-worm, white grub, and grey grub—in some cases different names evidently for the same pest—but notwithstanding these attacks, and the injury from crows, the prospects for corn were good as correspondents wrote in August, except in the extreme eastern part of the Province. Although considered perhaps later than usual no fears regarding injury from frost were then expressed by correspondents.

November reports concerning this crop were almost unanimous in describing it as an excellent one, more especially in those sections where corn is most largely grown. A heavy wind storm in September blew down a portion of the crop and made it difficult to cut, but on the whole the season had been remarkably favorable for corn, both for husking and for the silo. It appeared to have completely escaped frost.

HAY AND CLOVER.

The following is a summary of the remarks of correspondents writing in May: "The losses of last year, when clover suffered severely from the severity of the winter, have somewhat diminished the area devoted to this crop. Owing to fall drouth there was a poor catch in newly seeded meadows, but the winter was a favorable one, and the new growth has for the most part survived in excellent condition. There have been some losses through heaving by frost, more especially in old meadows on low-lying lands, and in some parts the ice has caused injury. The eastern section of the Province has suffered more in this respect than the west. Clover is in a slightly backward condition, and is beginning to need rain badly in some places."

Hay and clover were thus described in the August Bulletin: This crop is a variable one, poor yields and heavy cuttings being reported from adjoining districts. The general return will not be up to the average. The drouth of last year, and winter-killing, are given as the chief causes of the light crop, some old meadows having suffered severely. The weather in most sections was "catchy" during haying, and a considerable portion of the crop was injured by the rain, although a number of correspondents described the hay as having been saved in excellent condition. Owing to delay in haying caused by wet weather some farmers had to leave the crop uncut until after fall wheat harvest.

Clover Seed. November reports regarding this crop were not favorable. There was a poor catch of seed in 1899, and the drouth of this season told greatly against the vitality of the second crop. The midge also attacked clover, particularly in the western half of the Province, and the yield of seed was therefore disappointing. But while red clover did not do well, alsike gave much more satisfaction, especially in the Lake Ontario counties. The bulk of the clover seed had yet to be threshed as correspondents wrote.

FIELD ROOTS.

Potatoes. According to the August reports a good yield of potatoes was looked for, although the beetle had been present in unusually large numbers. Late planted varieties promised better than those put in earlier. Some correspondents feared blight or rot should the wet weather at the time of reporting continue, but happily dry weather had since prevailed.

The November bulletin contained the following: "Most of the reports regarding potatoes are favorable. The crop suffered more from drouth than from rain. The western and central portions of the Province appear to have almost entirely escaped rot, and in those sections the tubers are described as being rather smaller in size than usual, but of good quality, scab being mentioned only here and there. In the St. Lawrence counties and in the East Midland group, however, considerable rot is reported, and scab is referred to more frequently than in the west. Taking the Province over, the crop may be considered a good one both as to yield and quality, and it has been well put away for the winter.

Carrots. Like other root crops carrots suffered from the dry weather at the time of sowing, but picked up considerably as the season advanced, and November reports were favorable both as to yield and quality.

Mangel Wurzels. The weather was rather dry at the time of sowing, nevertheless the crop was reported to be in a promising condition as correspondents wrote in August, more especially in the western part of the Province.

November reports concerning mangels were highly favorable, for while adverse comments were few, positive remarks of the excellence of the crop were many. In most cases mangels had been well secured for the winter.

Turnips. Fields were rather patchy in August, owing to dry weather at the time of sowing The crop also suffered from attacks of the fly.

The November bulletin had the following regarding turnips: "Various causes have combined to give this crop a setback this season. While a few correspondents report a good showing, most of the returns tell a discouraging tale. 'Drouth and lice,' 'drouth and flies,' 'lice and cabbage worms,' 'rot and lice,' have been frequently complained of, and the crop, both in yield and quality, is below the average. In many parts of the Province a portion of the crop remained to be housed as correspondents wrote."

Sugar Beets. These roots appear to be coming into considerable favor for the feeding of cattle. Much more frequent mention is made of them, and the general tone of the reports is most encouraging. As a result of this year's experience a larger acreage may be looked for in the immediate future.

FRUIT AND FRUIT TREES.

The May bulletin had the following: "Fruit trees and bushes have come through the winter with unusually small loss. Although the season had been backward there was promise of a heavy bloom on fruit trees when correspondents wrote at the beginning of May, and if frosts and heavy rains are escaped at the period of blossoming a large setting of fruit may be looked for. One great drawback to the bright prospects of orchard owners this season is the large number of canker worms looked for at many points in the Province, east and west. Some correspondents prudently removed the eggs from the branches of apple trees during the winter, but in most cases spraying will be an imperative duty if the apple crop is to be saved from this pest. A few correspondents also referred to the San José Scale and the bark-louse as doing injury."

August reports were to the following effect: "Taken on the whole the season has been a fair one for fruit. Summer and fall apples are abundant, although a large amount of fruit has dropped from the trees on account of drouth and wind. Winter apples are not bearing so heavily as the earlier sorts Where sprayed, apples will be of fair quality, but where this has been omitted there will be a lot of wormy and scabby fruit. Plums are scarce, and the curculio, where spraying was neglected, has been very injurious. A number of peach trees are reported as having succumbed this season to the effects of the intense cold of the winter of 1888-9, but otherwise peach orchards are as a rule in heavy bearing with a first-class quality of fruit. Varying reports have been received regarding pears, ranging all the way from "light" to "loaded." Cherries were a comparatively poor crop, and the black knot still assails the trees. Grapes give promise of a good yield, as usual. Strawberries suffered considerably from drouth, and other small fruits raised for the market have been fair; but huckleberries, raspberries and other wild fruits have been abundant."

Fruit trees and vines were reported to be in good general condition in November, although limbs of apple and pear trees were broken during the high winds which occurred in July and September. The tent caterpillar was numerous, and the codling moth was also injurious, although the latter was not so bad as in the previous year. Several correspondents spoke of the beneficial effects of spraying fruit trees; but still too much wormy and scabby fruit was complained of. Mention was also made of the presence of the San Jose Scale in some of the Lake Erie counties. Apples would have been an immense crop but for the winds, one in September, referred to by a correspondent as the "Galveston storm," having shaken down about half of the crop. Some of this fruit was saleable, a lot of it was fed to live stock, and considerable of it was allowed to rot on the ground. Complaints were frequent regarding the low prices offered for apples. It would also appear as if, owing to early ripening of this fruit, that its keeping qualities were hardly as good as usual. Peaches, plums, pears, and most of the small fruits, were more or less a full crop where grown.

MISCELLANEOUS.

Flax. This crop of late years has not been sown to as great an extent as formerly. The few correspondents referring to flax in the August returns spoke of it as a heavy crop of an excellent fibre. The area in crop was 5,790 acres.

November reports were thus summarized: Considerable flax has been grown this season, but not so much as was raised a few years ago. Most of the flax grown is raised in the western portion of the Province, where a number of flax mills are located.

Hops. Hops are not commonly grown. Where raised, however, the crop is said to be about an average, the chief injury coming from drouth. Acreage, 1,096.

Lucerne. This crop is coming into favor, a larger area being covered by it than in previous years. While some speak well of it as hay, others do not care for it in that form. It gives the best satisfaction where pastured.

Rape. This is said to be one of the best crops for finishing off lambs in the fall, and the acreage is yearly increasing. It is also fed to hogs and other live stock to a certain extent, but owing to milk being strongly tainted by it, it should have no place in dairy farming. The area was 35,711 acres.

Tobacco. The acreage of this crop, which is confined mainly to the counties of Essex and Kent, was larger than that of last year. According to the August reports the plant has suffered considerably from rain, and also from attacks of the "worm," but as correspondents wrote a considerable improvement has occurred in the condition of the crop. The yield of tobacco is estimated at 2,854,900 pounds from 2,477 acres, or 1,153 pounds per acre. Of this amount the County of Essex produced 2,065,560 pounds from 1,620 acres

Correspondents who wrote in November regarding tobacco growing spoke of the crop as a good average one, although late planted appears to have been caught by rain.

Sorghum. In some of the Lake Erie counties, notably Essex, considerable sorghum is grown for the making of syrup. Most of the product is consumed on the farms, although some goes on the market. The crop has been a success this year. A few correspondents elsewhere speak of growing it to cut young as a succulent food for cattle during the dry season.

The Canning, Evaporating, and Pickling Business. The favorable reference of several correspondents to canning and pickling establishments is suggestive of the great possibilities before the Province in the way of supplying preserved fruits and vegetables to the markets of the world. Corn, peas, tomatoes, cucumbers, pumpkins, onions, etc., as well as a large variety of orchard and garden fruits, are now being preserved in some form or other, and placed upon the market in attractive style. The poultry trade is also receiving considerable attention from Ontario canners. It would now look as if the development of our canning, evaporating, and pickling trade is about to assume larger proportions, in which case there will be a great increase in the income of some of our farmers.

Farm Improvements. November reports stated that a considerable amount of underdraining had been done, but hardly as much as would have been performed had the season not been so dry. New fences are rapidly taking the place of the old crooked rail ones, woven wire now being the favorite style, barbed wire having been found unsatisfactory. A large number of houses and barns have been erected, and many old buildings and stables have been remodelled. In short, the year had been a progressive one along the line of farm improvements.

Threshing and Marketing. The following is from the November bulletin: Threshing was completed in most sections as correspondents wrote, the weather having been suitable for this class of work. Reports regarding the marketing of grains differ. Some state that only a little fall wheat has been sent to market, others that half the crop has been disposed of, and still others put sales at two-thirds of the crop. It is safe to say that a large quantity of first-class fall wheat is in farmers' hands awaiting a rise in price. A good deal of Goose wheat, which has been so largely grown this year, has been sold—relatively more so than of any other grain. While some correspondents speak of considerable oats, barley, and peas as having been disposed of, the general opinion is that farmers prefer to feed their coarse grain rather than to sell at prevailing prices. In fact, it would seem as if the larger portion of the grain and fodder now grown on Ontario farms is raised with the object of feeding to live stock.

Fall Plowing. Dry weather in the early part of the autumn rendered the ground hard and unfit for plowing in many sections of the Province, which threw much of the fall plowing considerably later than usual. However, the weather was more favorable for the work as correspondents were reporting, early in November, and the general opinion was that a full area would be turned under for the season. Several correspondents in Essex, Kent and Elgin, state that among other causes hindering the progress of fall plowing was the fact that extra time had to be given to husking the immense crop of corn.

LIVE STOCK AND THE DAIRY.

The May reports were thus summarized: "Reports as to the condition of live stock are in the main favorable, the animals being as a rule healthy and vigorous. Owing to the need of economizing fodder many of the cattle are lean. In many cases they went into winter quarters in poor condition by reason of the drouth. Though horses suffered in numerous instances from distemper and inflammation no contagious disease is noted. There has been active demand

for horses, and they have come through the winter in good condition. Sheep have done well, though some correspondents state that the tick is prevalent in their neighborhoods. There appears to be a decrease in the number of hogs kept, due no doubt to the heavy demand, a large number having been disposed of. Pigs seem to have been more subject to disease than any other stock, many suffering from crippling or rheumatism. In Middlessex a plague affecting the lungs and causing sudden death has made its appearance. The cold weather of the season has been highly unfavorable to parturition, and the death of an unusual number of calves, lambs and young pigs is noted. There was a sufficient supply of fodder in most parts, but a shortage in the Lake Erie Counties and some other sections."

August reports were to the following effect: "Local conditions in a majority of cases have been favorable to the growth of pasturage, and stock are consequently in a generally thrifty state. In many localities, however, the pastures are reported as dry and bare owing to continued drouth, though recent rains have had a beneficial effect in some neighborhoods. Generally speaking, there will be plenty of fodder to provide for stock through the winter, as—although hay is scarce and straw not as plentiful as usual—there will be an abundant supply of corn and roots. Dairy production has been generally up to the mark, though a shortage of milk has been noted by numerous correspondents, and butter is scarce and brings a better price than usual. The season has been especially good for dairying in the eastern portion of the Province, where the rainfall has kept the pastures in better condition than elsewhere. The health of the stock is excellent throughout. There is no mention of any serious disorder, and the only drawback to their condition seems to be the attacks of the horn-fly which is very prevalent in many places."

The following comments were made on the reports sent in for the November bulletin: Pastures in the early part of the autumn were affected by drouth, but later in the season they picked up to such an extent that the majority of the reports, more especially those from the eastern portion of the Province, spoke of the grazing as being particularly good for the time of the year. Live stock generally were described as being in good condition The only case of sickness reported was an odd case of hog cholera in Essex. Cattle were considered perhaps rather thin—some say on account of the fly in summer—but otherwise they were thrifty, and sold well; so much so, in fact, that hardly as many as usual have been he'd over for winter fattening. Sheep were not referred to as generally as other stock but were favorably reported upon. An immense number of hogs have been sold this year, usually at about six months old. Many farmers, more especially in the western half of the Province, have adopted the plan of finishing off a number of young hogs at intervals during the season, thus avoiding the winter glut. On this account there were hardly as many on hand as at the same time last year. While hay will be scarcer than usual, coarse fodder will be plentiful, corn having been an immense crop. A larger number of silos have been erected this season than for some years past, the stave or tub shape appearing to be the most popular form at present, although a few correspondents report the building of concrete silos. In this connection there appears to be a preference for those varieties of corn which ear well as compared with the more stalky sorts of southern corn formerly planted.

Values Per Head. The statistics of live stock will be found on pages 35-41. The following table gives the average value per head of stock on hand for the past nine years:

Classes of Live Stock.	1900	1899	1898	1897	1896	1895	1894	1893	1892
Horses:	$	$	$	$	$	$	$	$	$
Working horses	79	72	65	61	63	66	74	80	89
Breeding mares	81	74	68	64	64	68	76	83	93
Colts	53	49	44	41	41	44	48	52	55
Stallions	368	332	303	283	263	265	328	356	407
Cattle:									
Working oxen	42	46	43	42	43	45	46	47	48
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Milch cows	31 01	30 31	28 28	26 13	27 60	29 74	31 02	31 63	29 95
Store cattle	29 38	29 27	26 49	23 89	24 01	25 36	26 75	27 45	27 42
Other cattle	13 67	13 09	11 91	10 62	11 19	12 14	12 91	13 40	13 37
Sheep:									
Over one year	5 17	5 01	4 76	4 37	4 41	4 62	5 14	5 62	5 58
Under one year	3 31	3 15	2 91	2 62	2 65	2 85	3 28	3 56	3 56
Hogs:									
Over one year	12 09	12 23	12 63	11 40	11 13	11 87	13 08	13 97	10 59
Under one year	4 24	3 92	3 91	3 67	3 70	3 98	4 30	4 48	3 96
Poultry:	cts.	cts	cts.	cts	cts.	cts.	cts.	cts	cts.
Turkeys	65	65	64	64	65	65	67	69	66
Geese	59	57	55	56	56	56	57	58	57
Ducks	30	29	.....	.....	.....	.....	.....	.....	.....
Other fowls	24	22	22	21	22	22	23	24	24

THE DAIRY. The state of the dairy industry has never been more satisfactory. Good all pastures and an abundance of corn fodder have kept up the late flow of milk. Prices have also been good for both cheese and butter, more particularly for the latter, and while in the eastern part of the Province the cheese factory seems still to be preferred, in the western counties butter-making is coming more and more into favor. The cream separator is working a revolution indeed in dairying throughout the country, and it appears to have solved one of the greatest difficulties in the manufacture of butter. Several correspondents report butter plants being put into cheese factories for winter butter-making An improvement in the quality of butter has been noted in almost every quarter of the Province. Shorthorn grades are still most largely used in Ontario dairies, although in the St. Lawrence and Ottawa counties the Ayrshire has decidedly the preference. Holsteins and Jerseys are also named as favorites for milk production.

CHEESE FACTORIES. The statistics of the cheese made in factories are given by counties in Table xxviii. (page 44), together with totals for the Province for ten years. There was a slight decrease in the number of factories operated, but the make of cheese was over four million pounds greater than in 1899. This, together with an average advance of 36 cents per hundred in the price of cheese, made an aggregate increase in the value of the output of $900,000 over that of 1899, which season formerly held the highest record for Ontario. The sum of $11,682,470 was paid to patrons for milk delivered at the factory. This amount, therefore, includes the cost of hauling, which may be estimated at $1,000,000, or about $1.50 per ton.

CREAMERIES. The following comparative table gives the statistics of the creameries operated in Ontario for the eight years 1893-1900, showing the quantity and value of butter made, the average number of patrons, the average price of butter per pound, and the amount paid to the patrons for milk or cream supplied.

Year.	No. of creameries in operation.	Butter Made.		Average No of Patrons.	Average price of butter per pound.	Milk to make one pound of butter.	Amount paid to the patrons for milk or cream delivered.
		Quantity.	Value.				
		lb	$		cts.	lb.	$
1900	308	9,041,468	1,819,290	21,809	20.12	23.96	1,589,291
1899	323	9,113,964	1,746,362	22,090	19 16	23 75	1,448,411
1898	282	9,008,992	1,632,234	22,741	18.12	23.99	1,291,220
1897	214	7,708,265	1,403,609	18,909	18.21	23.97	1,139,463
1896	170	6,033,241	1,101,282	12,245	18.25	24 13	.....
1895	135	4,553,708	868,382	9,664	19.07	24.75	.....
1894	115	3,162,550	662,297	8,298	20.94	23.79	.. .. ..
1893	74	2,707,570	574,156	7,852	21.21	23.58	... .

The number of creameries operated includes the skimming stations. A number failed to operate owing to the good cheese season.

The cash return to patrons of creameries averaged 73.4 cents per 100 lbs of milk, while the patrons of cheese factories received 85.5 cents. But it must be remembered that the former received also the skim milk and butter milk while the latter received but the whey.

POULTRY. The following appeared in the November bulletin : "Correspondents have had more to say than usual regarding eggs and poultry, and it is evident that this branch of the live stock industry is receiving closer and more intelligent attention than ever before. Egg production has been large this season, and good prices have prevailed. One correspondent in Kent mentioned a disease which attacked fowls in the head, mouth and throat : two others in the West Midland district spoke of hen cholera, and the fourth referred to a fatal disease among young turkeys in the county of Carleton ; but with these exceptions the health of poultry has been reported as good all over the Province Plymouth Rocks are mentioned with favor as a breed for the farm. Turkeys are being raised more generally than formerly, and geese are also regarded as paying, but ducks are not considered as profitable as other fowls. Some correspondents mention the fact that the canneries are considered a benefit to poultry raisers. It would seem as if farmers have at last come to see the great possibilities of the poultry industry, and are now regarding it as a most important line of agriculture."

BEES AND HONEY. The August bulletin contained the following regarding bees and honey : "Conflicting reports come regarding the condition of bees in the spring, some stating that there was considerable mortality during the winter. Swarming was reported to be great by some, while others say that there was very little swarming. Local conditions and skill in handling

hives account for varying reports regarding yields, which range from 10 to 75 lbs. The average may be safely placed at between 35 and 40 pounds, spring count. Most of the honey will be from clover, as linden was scarce; in fact many correspondents report practically no basswood bloom. No disease was reported, and as correspondents wrote bees were said to be in thrifty condition."

Correspondents had less than usual to say in November concerning the apiary. Nectar was abundant during the latter part of the season, and in many localities bees went into winter quarters with scant supplies, and might require feeding. Only one mention of foul brood was made.

LABOR AND WAGES.

The August bulletin thus dealt with the subject of farm labor and wages: "While the supply of farm labor appears to be fully adequate to the demand during the greater portion of the season, there is in most neighborhoods considerable difficulty in securing the extra hands needed at haying and harvest time. The tendency to dispense with hired help seems to be on the increase. There has been a decided increase in wages this season, but the reports as to the rates prevailing in different localities vary greatly. The general rate per day is from $1 to $1.50, with board, there being a very few instances in which a lower figure is named. The monthly rate, where men are engaged for the season—that is, from six to eight months—is usually from $16 to $20, with board, but for engagements of one or two months only the rates as a rule is something higher—$30 and $35 being paid in some instances. The scale appears to be generally higher in the west than in the east, with the exception of those counties adjacent to the lumbering region where the competition of the lumber camps tends to keep up the price of farm labor."

The November returns were to the following effect: "Correspondents are divided as to the supply of farm labor, some claiming that there was sufficient, others holding that there was a scarcity. It would appear, however, that skilled agricultural laborers were in demand in every portion of the Province. Several correspondents report the fact that the temporary return of young men from Manitoba will meet all the requirments of the present. Regarding the question of the rise or fall of wages correspondents also vary in opinion. Some state that rates must fall, while others state that wages will go up. Others, again, hold that there will be comparatively little change, as farmers cannot afford to pay more, and that with the increased openings in factories and other manufacturing concerns men will not work for low wages on the farm. Touching the matter of rural domestic service there is an almost unanimous report of a scarcity of this class of workers. The reasons given are many; in some cases the employees are criticised, in other cases the employers. The situation is one that deserves attention. It is manifest that young women as a class prefer almost any other kind of employment to that of domestic service on a farm. The reasons why should be carefully considered by all concerned."

The following table gives the average rate of wages paid farm laborers by the year and by the month, with and without board, for ten years, together with the average for nineteen years; also the monthly wages paid domestic servants on the farm:

Farm Laborers.	1900	1899.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	1882-1900.
Per year in yearly engagements:	$	$	$	$	$	$	$	$	$	$	$
With board	155	149	148	144	141	150	156	160	156	158	157
Without board ..	248	243	246	236	243	246	247	255	253	257	250
Per month for working season:	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c	$ c.	$ c.
With board... ..	16 57	15 38	15 31	14 29	14 57	15 38	16 55	17 13	16 52	16 66	16 73
Without board ..	25 73	24 93	25 44	24 47	24 11	25 45	25 61	25 97	25 92	25 81	26 14
Domestic servants per month	6 65	6 19	6 09	5 97	6 11	6 07	6 23	6 47	6 21	6 25	6 23

TEMPERATURES OF 1900.

TABLE I. Showing for each month the highest, lowest, mean highest, mean lowest and mean temperature at the principal stations in Ontario in 1900; also the annual mean for each station.

Months.		Saugeen.	Birnam.	London.	Woodstock.	Stony Creek.	Toronto.	Lindsay.	Gravenhurst.	Ottawa.	Rockliffe.
		°	°	°	°	°	°	°	°	°	°
January	Highest	40.0	44.0	45.0	40.2	45.0	46.0	40.2	41.0	39.0	40.0
	Lowest	0.0	-6.2	-7 5	-7.0	0.0	0.0	-8 1	-9.0	-10.0	-23.0
	Mean highest	30.9	31.1	32.3	30.8	34 5	33 0	28.1	27.3	25.7	22.6
	Mean lowest	17.4	21.5	17.7	17.1	21.6	18.1	10.9	9.9	4.6	-2.8
	Monthly mean	24.2	26.3	25.0	25.0	28.7	26.2	19.5	18.6	15.2	9.9
February	Highest	52.8	57.9	55.0	52.0	56.0	48.0	43.0	45 0	42.5	40.0
	Lowest	-15.1	-18.5	-16.5	-11.5	-7 0	-9 6	-29.1	-37.0	-24.0	-46.0
	Mean highest	26 2	26.0	27.1	25.9	29.9	27.2	24.2	24.3	24.2	23.2
	Mean lowest	10.9	12.0	10.0	9.5	12.1	12.7	5.8	4.1	6.1	-3.7
	Monthly mean	18.5	19.0	18.5	18.9	21.2	20.6	15.0	14.2	15.2	9.8
March	Highest	42.8	45.2	44.0	44.0	48.0	43.8	41.6	42.0	43.0	46.0
	Lowest	-13.1	-14.5	-13.5	-4.0	4 0	-3.0	-15.2	-23.5	-11.0	-36 0
	Mean highest	30.2	30.5	31.6	29.8	33.5	31.2	28.8	28.4	28.3	29.0
	Mean lowest	11.8	14.9	14.2	12.9	17 6	15.4	8.0	5.0	8.9	-2.3
	Monthly mean	21.1	22.7	22.9	22.6	25.5	23.6	18.4	16.7	18 6	13.3
April	Highest	70.0	79.5	78.0	75.0	81.0	70.7	75.8	73 2	74.8	81.0
	Lowest	18.6	22.9	22.5	23.0	24.0	21.3	17.4	16.0	20.0	14.0
	Mean highest	49.5	54.8	56.9	53.6	54.6	53.1	55.5	53.5	54.9	57.3
	Mean lowest	33.8	36.1	35.4	35.2	36 5	37.2	33 2	31.7	34.0	29.0
	Monthly mean	47.8	44.6	45 2	44.9	45.4	45.2	44 5	42.6	44.4	43.0
May	Highest	80.0	85.1	85.0	82.5	88.0	87.5	89.5	82 0	84.8	87.0
	Lowest	26.6	27.5	27.5	28 0	27.0	30.5	24.9	28.0	27.0	16.0
	Mean highest	62.1	67.8	69.8	66.8	68.0	65.6	69.0	64.4	65.0	66.5
	Mean lowest	42.4	46.5	45.2	44 5	45.0	44.6	42.3	42.3	41.6	34.5
	Monthly mean	52.3	57.1	57.5	56 0	55.9	54.9	55.6	53.3	53.3	50.6
June	Highest	87.0	90.0	89.0	86.5	94.0	89.4	88.9	84.0	85.8	84.0
	Lowest	41.1	43.2	42 5	42.0	44.0	44.4	44.3	41.0	46.0	33.4
	Mean highest	70 6	75.6	77.5	75.1	78.3	75.5	77.6	76.2	77.8	76.9
	Mean lowest	50.4	53.2	52.0	51.8	55.7	54.8	51.6	49.2	55.5	44.7
	Monthly mean	60 4	64.4	64.7	64.9	66.3	65.2	64.6	62.7	66.7	60.8
July	Highest	87.8	94.2	94.0	90.5	95.0	94.4	91.0	87.0	87.8	86.0
	Lowest	45 7	41.2	40.5	43.0	46.0	48.1	44.9	45.0	48.0	34.0
	Mean highest	75.2	80.7	81.0	79.2	83 6	79.9	79.8	77.2	78.0	78.0
	Mean lowest	57.3	60.0	57.3	56.5	61.3	58.4	56.5	55.0	59.9	52.1
	Monthly mean	66.2	70.4	69.2	68.7	71.2	68 5	68.1	66.1	69.0	65.0
August	Highest	89.0	97.7	94.8	92.5	100.0	98.0	93.6	92.0	88.8	94.0
	Lowest	48.3	48.3	47.0	49.0	55 0	51.3	47.7	43.0	49.0	34.0
	Mean highest	79.6	84.2	84.3	82.3	87.2	81.3	82.5	81.5	78.8	79.1
	Mean lowest	61.2	63.2	60.7	60.4	65.0	63.5	59.0	57.8	59.5	49 8
	Monthly mean	70.4	73.7	72.5	72.1	74.4	71.6	70.8	69.6	69.2	64.5
September	Highest	87.2	90.2	89.8	86.5	95.0	91.7	92.7	91.0	89.3	90.0
	Lowest	33.3	40.1	34.0	38.0	43.0	44.0	36.8	36 0	37.0	30.0
	Mean highest	71.7	74.2	75.9	73.0	77.6	72.8	71.9	71.8	69.8	69.0
	Mean lowest	52.8	55.0	51.3	50.8	55.0	55 0	50.5	50.7	51.6	44.1
	Monthly mean	62.3	64.6	63.6	62.8	65.9	63.7	61.2	61.2	60.7	56 6
October	Highest	85.0	84 8	84.0	82.0	88.0	83.0	83 6	84.0	78.8	89.0
	Lowest	28.6	26.0	24.5	24 0	26.0	25.9	23.9	23.0	26.0	15.0
	Mean highest	65.1	67.0	67.5	64 8	71.0	64.4	64.1	64.0	63.8	63.7
	Mean lowest	46.8	50.0	44.2	44.5	49.1	47.2	44.0	43.9	43.7	37.2
	Monthly mean	56.0	58.5	55.8	55.0	58.4	55.7	54.1	54.0	53.7	50.5
November	Highest	64.0	62.0	63.5	66.0	72.0	64.8	62.6	61.0	63.0	59.0
	Lowest	14.6	11.9	15.2	17.0	22.0	14.1	3 8	4.0	9.0	0.0
	Mean highest	44.6	41.0	45.0	43.8	49.1	43.9	40.6	39.7	39.4	36.0
	Mean lowest	32.0	29.8	31.4	30.8	35.4	33.2	27.7	28.2	27.2	19.8
	Monthly mean	38.3	35.4	38.2	37.4	42.1	38.3	34.2	33.9	27.2	27.9
December	Highest	48.4	51.5	53.0	57.0	55.0	48.4	41.2	41.1	38 0	37.0
	Lowest	3.1	5.2	-2 0	0.4	2.0	-1.5	-9.8	-11.3	-12.0	-30.0
	Mean highest	34.5	33.1	34.0	33.4	38.4	35.5	30.7	30.2	24.6	23.5
	Mean lowest	21.9	24.1	21.2	20.7	23.6	23.0	15.9	12 7	9.9	2.4
	Monthly mean	28.2	28.6	27.6	27.7	31.1	29.3	23.3	21.4	17.2	13.0
Annual mean		45.47	47.11	46 73	46 33	48.84	46.90	44 11	42.86	42.53	38.74

AVERAGES OF TEMPERATURES FOR NINETEEN YEARS.

TABLE II. Showing for each month the annual average of the highest, lowest, mean highest, mean lowest and mean temperature at the principal stations in Ontario, derived from the nineteen years 1882-1900; also the annual mean at each station for the same period.

Months.		Saugeen.	Birnam.	London.	Woodstock.	Stony Creek.	Toronto.	Lindsay.	Gravenhurst	Ottawa.	Rockliffe.
		°	°	°	°	°	°	°	°	°	°
January	Highest	44.6	46.6	46.9	46.5	51.6	45.0	41.7	41.8	40.3	37.8
	Lowest	-7.4	-10.1	-9.7	-12.2	-4.4	-8.0	-20.9	-26.9	-22.2	-33.2
	Mean highest	27 8	26.9	28.5	27.8	32.9	28.6	24.1	23.8	19.7	18.4
	Mean lowest	13.0	14.4	13.6	10.9	19.0	13.8	6.4	3.9	1.2	5.8
	Monthly mean	20.4	20.6	22.0	20.6	23 1	21.8	15.5	14.6	11.0	6.4
February	Highest	45.8	48.1	47.2	46.2	48.8	44.6	42.5	43.0	40.4	42.2
	Lowest	-11.4	-13.4	-12.0	-12.4	-6.6	-8.6	-18.8	-26.0	-22.5	-34.8
	Mean highest	27.9	27.5	28.9	28.6	32.3	29.0	25.8	25.6	22.1	22.2
	Mean lowest	11.6	13.4	12.7	10.8	16.9	13 6	6.2	4 4	3.1	1.4
	Monthly mean	19.3	20.5	21.6	21.1	23.6	21.8	16 3	15 6	13 2	9.0
March	Highest	51.6	55.9	55.9	54.7	57.9	52.2	48.8	48.3	45.6	49.3
	Lowest	-5.0	-4.8	-3.3	-4.2	4 5	2.6	-8.6	-15.2	-10.2	-25.1
	Mean highest	33.8	34.8	36.0	35.2	39.2	34.9	32.8	32.8	31.3	32.0
	Mean lowest	16.7	19.5	18.9	17.4	24.2	20.4	14.5	11.5	13.2	5.5
	Monthly mean	25.0	26.9	28.3	27.1	30.4	27.8	23.5	22.5	22.5	18.9
April	Highest	73.5	77.5	76.4	75 7	77.8	70.9	74.5	70.8	73.8	74.8
	Lowest	13.9	17.0	18.2	16.6	23.3	20.6	12.7	10 4	13.2	5.3
	Mean highest	49.5	53.1	53.0	53.1	54.2	50.6	52.0	49.9	50.8	51.1
	Mean lowest	31.1	33.9	32.5	31.8	36.7	33 7	30 3	28.7	30.6	25.9
	Monthly mean	40.0	43.4	44.6	43.0	44.1	42.1	40.7	39.3	41.1	38.0
May	Highest	79 6	82.5	81.9	80 9	83.9	78.2	82.2	81.0	82.9	85.2
	Lowest	28.8	29.0	30.4	29.3	34 6	32.4	28.6	28.3	31.1	24.7
	Mean highest	60.9	65 7	66.2	64.7	66.1	62.5	65.6	63.8	66.1	65.6
	Mean lowest	41.1	43.9	44.2	42.3	45.8	43.8	41.8	41.8	43.9	38.5
	Monthly mean	50.4	54.8	56.4	54.3	54.9	53.0	53.4	52.7	55.4	51.8
June	Highest	85.4	88.5	88.0	87.6	91.9	86.6	89.0	87 4	88.3	89.5
	Lowest	37.7	37.7	39.1	38 8	44.2	42 9	39 0	37.4	41.9	34.3
	Mean highest	71.1	76.5	76 7	76.3	78 9	74.1	76.6	75.2	76.3	75 9
	Mean lowest	50.8	53.4	53.7	52.0	57.3	54.0	51.6	51.4	54 2	47.8
	Monthly mean	60.7	64.9	66.4	65.1	66.7	63.9	64.0	63.4	65.7	61.8
July	Highest	87.3	92.6	91.6	90.7	95 2	89.9	91.6	89.3	90.8	90.8
	Lowest	42.5	41.6	43.6	43.4	49.3	47.6	42.9	42.9	46.7	40.3
	Mean highest	77.8	80 3	79;9	79.8	83.2	78 2	80.0	78.3	78.9	78.1
	Mean lowest	55.1	56.2	56.7	54.8	60.8	57.9	54 6	55 2	57.5	52.8
	Monthly mean	64.6	68.3	69.8	68.2	71.2	68.0	67.0	66.8	68.5	64.7
August	Highest	86.6	91.4	90.6	90.0	93.8	88.2	90.5	88 8	88.9	89,1
	Lowest	41.5	40 8	40.1	41 1	47.1	46.1	39.5	39.9	43.0	37.5
	Mean highest	73.9	77.5	77.8	77 8	81.7	76.3	77.8	76.3	76.2	75.2
	Mean lowest	54.8	55.1	54.3	51.3	59.5	51.7	53.0	53.4	54.9	50.5
	Monthly mean	66.2	66 2	67.2	65.7	69.9	66.3	64.7	64.4	65.8	61 4
September	Highest	85.2	87.7	86.6	86.6	91.0	84.7	86.8	84.4	84.8	84.7
	Lowest	32.5	33 1	31.7	31.1	36.6	36.7	30.5	30.8	32.2	29.1
	Mean highest	68.3	70.9	71.1	70.4	74.4	68.7	69.5	68 7	68.3	67.6
	Mean lowest	49.1	50.2	49.3	46.7	53.1	50.3	46 1	46.8	47.3	43.3
	Monthly mean	57.6	60.6	60.7	59.1	62.3	59.4	57.1	57.2	57.7	53.5
October	Highest	74.4	76.6	75.3	74.8	77.1	72.3	74.0	72.7	70.8	72.8
	Lowest	24.5	24.1	23.6	22.9	26.8	26.2	20.7	21.8	23 2	18.5
	Mean highest	56.1	57.1	57.4	56.4	61.3	55.6	55.0	55.5	53.6	53.1
	Mean lowest	39.2	40.3	38.2	36.7	42.3	39.9	36.0	37.0	36 1	33.3
	Monthly mean	46.6	48.7	48.3	47.0	50.0	47.8	44 7	45.4	45.0	42.0
November	Highest	61.5	63.3	62.2	62.0	66.1	59.4	59.8	59.5	57.8	56.6
	Lowest	18.4	13.0	12.3	10.6	17.2	14.0	4.6	7.1	5.6	1.5
	Mean highest	43.1	42.6	43.9	42 7	47.2	43.2	40.5	40.7	38 6	37.0
	Mean lowest	30.0	30.7	29.4	27.6	33.0	30.6	25 9	26.0	25.1	22.0
	Monthly mean	35.9	36 7	37.0	35.9	39.6	37.0	33.0	33.3	31.8	29.0
December	Highest	50.5	50 1	57.0	49 8	54.9	48.1	45.1	45.2	42.6	41.9
	Lowest	-0 8	-2.0	-2.9	-4 4	0.8	-2.4	-14.0	-13.9	-16.6	-24.6
	Mean highest	33.5	32.3	33.6	32.6	37.3	33.9	29.4	29.7	25.3	24.8
	Mean lowest	20.9	21.3	20.3	18.1	24.0	21.0	13.8	13.7	9.3	5.4
	Monthly mean	27.1	26 8	27.6	26.2	30.5	27.9	22.1	22.3	17.8	14.9
Annual mean		42.83	44.87	45.83	44.43	47.19	44.73	41.82	41.46	41,29	37.62

RAIN AND SNOW.

TABLE III. Summary of the total fall of rain and snow, and the number of days on which rain and snow fell in Ontario during the year 1900 at stations reporting for the whole year, and the average for the Province.

Station.	Rain.		Snow.	
	Inches	Days.	Inches.	Days.
ESSEX :				
Cottam	31.57	83	21 3	15
Windsor	28 48	98	48.2	26
KENT :				
Ridgetown	26 40	93	90.5	32
Dealtown	26.74	88	49.1	22
ELGIN :				
Cowal	26.02	52	63 0	18
Port Stanley	24.81	117	112.8	59
NORFOLK :				
Port Dover	23.34	101	124 2	55
WELLAND :				
Welland	26.22	91	146.6	38
LAMBTON :				
Sarnia	14.54	35	63 8	27
Birnam	24.08	81	90.1	51
Wyoming	22 76	57	50.0	19
HURON :				
Goderich, L. H.	21 92	47	84.5	38
Sunshine	20 82	75	101.5	58
BRUCE :				
Lucknow	26.68	98	105.7	49
N. Bruce	22.28	93	92.5	58
Point Clark	20.26	35	54.0	16
Saugeen	21.44	90	101.1	77
GREY :				
Owen Sound	24.96	91	115.9	61
Durham	24.02	91	196.0	49
Meaford	24.07	77	130 8	55
SIMCOE :				
Barrie	24.13	99	102.8	74
Coldwater	20 51	79	89.6	49
Orillia	18.74	72	99.9	54
MIDDLESEX :				
London	25.42	87	83.6	51
Hubrey	27.18	73	52.0	14
OXFORD :				
Princeton	23.09	59	89.5	32
Woodstock	20.02	83	62.3	33
BRANT :				
Paris	26 53	85	66.5	18
St George	23.32	74	82 1	25
Brantford	23.08	65	68.0	21
PERTH :				
St. Marys	23.07	60	89.0	34
Stratford	22.68	77	104.7	41
WELLINGTON :				
Guelph	20.24	81	64.2	28
Eramosa	23.31	104	110.5	61
DUFFERIN :				
Orangeville	28.80	78	109.8	41
WENTWORTH :				
Stoney Creek	29 23	75	61.8	18
Hamilton	24.91	90	89 1	26
HALTON :				
Georgetown	21.14	99	98.4	59
YORK :				
Aurora	19.39	71	76 1	42
Scarboro'	21.92	86	57 8	31
Deer Park	21.86	82	50.2	24
Toronto	22.13	99	74 6	42
Stouffville	23.46	83	100.3	45
PEEL :				
Alton	26.11	95	72.8	45
FRONTENAC :				
Kingston	23.10	101	77 5	65
Arden	28.28	112	88.0	39
CARLETON :				
Ottawa	24.69	71	101.4	34
RENFREW :				
Clontarf	21.10	76	126.7	57
Rockliffe	24.36	77	68.4	61
LANARK				
Oliver's Ferry	20.75	59	65.5	23
Smith's Falls	29.39	60	57.0	21
VICTORIA :				
Kinmount	26.12	70	71.2	35
Lindsay	24.72	103	122.0	51
PRINCE EDWARD :				
Bloomfield	20.86	77	63.8	29
PETERBOROUGH :				
Ennismore	18.50	40	58 0	16
Peterborough	23.73	87	113 1	48
Lakefield	21.83	76	87.0	29
HALIBURTON :				
Haliburton	28.96	104	84.2	66
HASTINGS :				
Bancroft	27.11	74	91.2	27
Deseronto	23.92	75	101.5	33
DURHAM :				
Port Hope	20.90	77	76.5	24
LENNOX :				
Parma	24.75	47	112.0	37
LEEDS :				
Lansdowne	16.56	56	54.0	23
MUSKOKA :				
Bala	27.46	66	99.7	30
Beatrice	26.56	79	129.2	47
Gravenhurst	23.34	81	102.3	57
Huntsville	31.60	54	86.5	32
PARRY SOUND :				
Parry Sound	28.11	91	141.7	79
Sprucedale	26.38	66	98.2	42
Uplands	23.41	70	117.5	50
ALGOMA :				
Port Arthur	25.39	75	17.0	23
White River	20.52	87	71.8	74
Rat Portage	22.90	72	48.7	27
Providence Bay	26.31	85	97.8	44
Average for the Province :				
1900	24.00	79	81.3	40
1899	25.13	81	60.5	34
1898	24.90	81	74.2	44
1897	28 30	88	73.0	49
1896	22.36	82	73.4	43
1895	21.61	79	81.1	50
1894	23.30	91	55.1	41
1893	25.64	86	99.3	56
1892	26.48	93	70.0	50
1891	26.59	90	61.4	43
1882-1900	24.09	87	76.3	47

RAIN AND SNOW.

TABLE IV. Monthly summary of inches of rain and snow precipitation in the several districts of Ontario in 1900; also the average derived from the nineteen years 1882-1900.

Districts.		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total for the year.
		in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
West and South-west:														
Rain	1900	0.95	1.77	0.80	1.67	2.24	2.74	4.00	2.60	1.90	2.33	3.29	0.43	24.72
	1882-1900	1.21	1.43	1.27	1.78	3.32	3.03	2.58	2.51	2.55	2.81	2.50	1.54	26.53
Snow	1900	12.1	28.0	19.2	0.6	....	....	....	....	....	....	4.9	2.4	67.2
	1882-1900	15.6	12.7	9.8	2.5	0.1	...	....	....	....	0.2	6.4	12.5	59.8
North-west and North:														
Rain	1900	0.36	1.19	0.33	1.04	2.30	2.32	3.40	2 21	3.71	2.77	3.00	0.46	23.09
	1882-1900	0.87	0.59	0.84	1.43	2.61	2.76	2.69	2.76	2.99	2.96	2 03	1.10	23.63
Snow	1900	17.9	29.4	12 7	0.7	....	....	....	....	....	....	14.6	19.4	94.7
	1882-1900	27.2	21.1	14.3	3.6	0.3	....	....	....	....	1.6	13.3	21.8	103.2
Centre:														
Rain	1900	0.63	2.10	0 56	1.78	1.06	2.72	4.51	1.88	2.29	2.51	2.93	0.59	23.56
	1882-1900	1.17	1.13	1.20	1.57	2.76	2.73	2.45	2.21	2.45	2.45	2.25	1.39	23.76
Snow	1900	16.8	27.7	23.0	0.5	....	....	....	....	....	....	11.1	2.5	81.6
	1882-1900	17.5	14.9	10.3	2.8	0.1	...	....	....	....	0.5	6.1	11.4	63.6
East and North-east:														
Rain	1900	0.93	1.67	0.42	1.25	2.53	3.53	3.93	1.93	3.01	2.11	2.76	0.56	24.63
	1882-1900	0.94	0.71	0.98	1.31	2.67	2.68	2.80	2.53	2.48	2.24	1.91	1.19	22.44
Snow	1900	16.6	22.2	20.3	1.6	....	....	....	....	....	....	10.9	10.1	81.7
	1882-1900	20.7	18.2	13.0	3.6	0.2	....	....	....	....	0.6	8.2	14.2	78.7
The Province:														
Rain	1900	0.72	1.68	0.53	1.44	2.03	2.83	3.96	2.15	2.73	2.43	2.99	0.51	24.00
	1882-1900	1.05	0.97	1.07	1.52	2.84	2.80	2.63	2.50	2.62	2.61	2.17	1.31	24.09
Snow	1900	15.8	26.8	18.8	0.9	....	....	....	....	....	....	10.4	8.6	81.3
	1882-1900	20.3	16.7	11.9	3 1	0.1	....	....	....	....	0 7	8.5	15 0	76.3

SUNSHINE.

TABLE V. Monthly summary of bright sunshine at the principal stations in Ontario in 1900, showing the number of hours the same was above the horizon, the hours of registered sunshine, the total for the year, and the average derived from the nineteen years 1882-1900.

Stations.		January.	February.	March	April.	May.	June.	July.	August.	September.	October.	November.	December.	Year.
		hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.	hrs.
Hours of sun above horizon		285.7	291.4	369.9	406.4	461.1	465.7	470.9	434.5	376.3	340.2	286.9	274.3	4463.3
Woodstock	1900	74.9	100.4	139.3	207.7	235.2	279.1	279.6	264.7	182.3	164.6	79.9	44.7	2052.4
	1882-1900	61.7	84.5	128.8	183.2	205.3	245.4	274.7	237.2	184.0	133 0	67.4	54.5	1859.7
Toronto	1900	95.8	107.8	175.9	221.7	254.9	327.0	287.5	278/8	213.8	170.1	97.9	74.3	2305 5
	1882-1900	78.3	101.5	158.6	201.4	220.9	264.7	284.9	253.5	212.9	146.0	77.5	61.9	2062.1
Barrie	1900	63.6	97.7	152.0	197.5	265.5	315.4	265.1	279 6	191.9	148.7	78.2	25.0	2080.2
	1882-1900	54.4	75 8	142.5	184.7	203.2	238.0	264.0	226.5	175.9	113.0	51.0	40.8	1769.8
Lindsay	1900	62.6	126.6	171.2	234.3	241.8	311.7	251.9	279.0	184.6	164.4	80.9	44.2	2153.2
	1882-1900	74.9	101.0	163.6	207.6	217.0	259.1	270.2	249.4	198.9	136.1	67.2	56.4	2001.4
Kingston	1900	88.6	116.5	168.6	208.9	242.1	293.2	247.4	254.9	177.5	172.4	75.0	45.0	2090.1
	1882-1900	76.7	106.2	164.3	198.9	219.4	252.9	270.5	246.3	193.4	138 3	74.1	68.9	2009.9
Average of five stations.	1900	77.1	109.8	161.4	214 0	247.9	305.3	266.3	271.4	190 0	164.0	82 4	46.6	2136.2
	1899	90.8	112.8	133.2	223.2	210.9	278.2	302.2	262 1	164.4	141.7	78.6	60 2	2058.3
	1882-1900	69 2	93.8	151.6	195.1	213.2	252.0	272.9	242.6	193.0	133.3	67.4	56.5	1940.6

TORONTO OBSERVATORY.

TABLE VI. Comparative Meteorological Register for the seven years 1894-1900 at Toronto Observatory. Latitude 43° 39.4' N., and Longitude 5h. 17m. 34.65s. W. Height above the sea 350 feet.

—	1900	1899.	1898.	1897.	1896.	1895.	1894.
	°	°	°	°	°	°	°
Average temperature	46.89	45.83	47.15	45.93	45.36	44.28	46.75
Difference from average (60 years)	+ 2 56	+ 1.50	+ 2.82	+ 1 60	+ 1.03	— 0.05	+ 2.42
Thermic Anomaly (Lat. 43° 40')	— 4 13	— 5.19	— 3.87	— 5.09	— 5.66	— 6.74	— 4.27
Highest temperature	98.0	92.1	97.1	93.3	91.3	93.4	90.7
Lowest temperature	— 9.6	—12.0	—15.0	— 7.2	—17.9	—21.2	— 9.9
Annual ranges	107.6	104.1	112.1	100.5	109.2	114.6	100.6
Average daily range	16 70	17.51	17.48	16.21	17.58	17.26	16.27
Greatest daily range	37.6	35.0	34.4	36.0	38.9	36.9	34.3
Average height of barometer at 32° Fahr.	29.6213	29 6368	29 6216	29.6319	29.6382	29.6171	29.6246
Difference from average (59 years)	+ .0014	+ .0169	+ .0027	+ .0120	+ .0183	— .0028	+ 0041
Highest barometer	30 224	30.403	30.218	30.353	30.422	30 240	30.516
Lowest barometer	28.802	28.657	28.732	28.779	28.734	28.746	29.035
Annual ranges	1.422	1.746	1.486	1.574	1.688	1.494	1.481
Average humidity of the air	76	76	76	76	75	75	76
Difference from average	0	0	0	0	— 1	— 1	0
Average elasticity of aqueous vapor	0.295	0.279	0.289	0.274	0.254	0.253	0.277
Average temperature of dew point	44.6	43.1	44.1	42.7	38.9	41.3	42.9
Average of cloudiness	0.57	0.56	0.58	0.61	0 60	0.57	0.60
Difference from average (45 years)	— 0.04	— 0 05	— .03	.00	— .01	— .04	— .01
	°	°	°	°	°	°	°
Resultant direction of wind	S 88 W	S 77 W	N 65 W	N 89 W	N 88 W	S 78 W	N 78 W
" velocity of wind	3.09	2.66	1.78	2.42	0.75	1.36	1.10
Average velocity (miles per hour)	10 67	10.14	10.12	12.33	8 44	5.60	5.67
Total amount of rain in inches	22.130	25.795	23.800	27.737	21.770	22.532	25.785
Difference from average (60 years)	—5.016	—1 351	—3.346	+0.591	—5 376	—4.614	—1.361
Number of days of rain	99	105	98	110	104	101	114
Total amount of snow in inches	74 6	31.8	71.3	47 4	73.3	54.8	37.8
Difference from average (60 years)	+ 7.20	—35.60	+ 3.90	—20.00	+ 5 90	—12.60	—29.60
Number of days of snow	42	40	53	43	43	48	32
Number of fair days	187	185	196	173	174	196	179
Number of days completely clouded	51	44	56	58	55	48	43
Number of auroras observed	3	10	7	3	18	11	23
Possible to see aurora (No. of nights)	224	226	210	179	194	195	199
Number of thunderstorms	34	29	34	19	25	23	36
Number of fogs	29	31	26	28	30	33	30
Number of hours of bright sunshine	2305.5	2148.2	2128.9	1987.6	2146 7	2159.7	2017.7
Number of hours of possible sunshine	4463.3	4463.3	4463 3	4463.3	4474.4	4463.3	4463.3

THE WEATHER—LAKE TEMISCAMINGUE.

TABLE VII. Summary for the year 1900 at Haileybury, Lake Temiscamingue, Lat. 47° 29′ N. Long. 79° 39′ W. Height above sea, 687 feet.

Months.	Temperature.						Wind direction from.									Force of Wind.		Amount of cloud.		Rain.		Snow.					
	8 a.m.	8 p.m.	Mean.	Max.	Min.	Mean daily range.	N.	N. E.	E.	S. E.	S.	S. W.	W.	N. W.	C.	8 a.m.	8 p.m.	8 a.m.	8 p.m.	Amount	Days .01 or over.	Amount	Days.	Gales.	Fog.	Thunder storms	Auroras.
	°	°	°	°	°	°												%	%	in.		in.					
January	6.3	11.1	9.7	40.9	-20.2	23.7	4	0	3	4	15	4	8	16	8	1.6	2.0	76	70	0.085	1	16 0	20	3	0	0	5
February	3.5	11.2	10 5	44.9	-29.1	22.3	6	2	0	2	10	4	15	7	10	1.8	1.8	64	69	0.785	3	17.9	16	3	0	0	3
March	4.6	13.8	11.4	44.9	33.8	28.0	9	2	0	6	4	6	6	22	7	1.8	1.6	50	47	0.000	0	27.4	11	1	0	0	7
April	35.0	41.6	41.2	79.3	7.6	26.5	12	1	5	0	6	1	7	10	18	1.2	1.2	52	55	0.945	5	1.3	4	2	0	1	4
May	46.5	51.3	50.9	89.7	22.1	24.8	14	4	0	5	5	4	5	7	18	1.5	1.1	58	59	1.395	10	0.5	2	1	1	2	4
June	59.2	61.9	61.5	85.8	36.7	26 6	7	8	0	2	4	11	4	14	10	1.8	1.4	54	59	2.810	12	.....	....	2	0	3	2
July	63.0	64.6	65.4	86.2	42.1	20.1	6	3	0	5	5	12	7	14	10	1.8	1.3	54	64	8.210	18	.....	....	0	0	6	2
August	63.3	63.7	65.4	89.1	41.4	21.2	8	3	4	3	11	7	4	4	18	1.5	0.9	63	52	2.460	13	...	...	1	0	6	1
September	54.8	55.9	56.8	87.4	31.5	18.0	11	2	1	2	7	12	7	6	12	2.1	1.4	68	56	7.445	15	.....	....	3	1	3	4
Octobor	48.5	51.3	51.2	73.3	23.0	18.4	4	2	3	5	13	11	4	6	14	1.8	1 5	68	58	2.815	10	0.5	1	2	4	1	2
November	24.4	25.9	25.5	62.3	-4.3	12.4	8	3	4	2	9	2	14	13	5	1.9	1.8	89	90	0.965	4	15.4	16	3	0	0	2
December	12.6	14.6	14.5	38.0	-26.3	17 9	3	2	4	5	8	8	7	20	5	1.7	1.3	94	74	0.120	3	18.1	23	3	0	0	0
Years 1900	35.14	38.91	38.67	89.7	-33.8	21.7	92	32	24	41	97	82	88	139	135	1.7	1.4	66	63	28.035	94	97.1	96	24	6	22	36
1899	33 65	37.82	37.82	89.6	-34.1	20.9	113	33	19	39	129	50	106	105	135	1.7	1.5	66	64	20.790	106	84.3	86	24	14	22	72
1898	36.05	39.29	39.34	89.8	-36.2	20.4	105	44	15	46	118	85	99	106	112	1.7	1.5	67	60	25.560	114	88.3	95	47	10	27	76
1897	35.10	37.79	37.76	96.5	-34.0	20.0	95	33	20	49	113	60	108	135	117	1.6	1.4	65	60	23.930	106	107.5	75	13	11	14	63
1896	34.31	36.14	36.74	92.7	-40.2	20.7	77	21	31	77	92	68	117	127	119	1.7	1.5	63	60	23.400	112	87.6	87	22	8	15	83

RURAL AREAS ASSESSED.

TABLE VIII. Showing by County Municipalities the rural area of Ontario as returned by municipal assessors for 1900; also the comparative totals for the Province for the ten years 1891-1900.

Counties and districts.	Acres of assessed land.			Acres cleared.	Acres woodland.	Acres in swamp, marsh or waste land.	Per cent. cleared.
	Resident.	Non-resident.	Total.				
Algoma	303,295	88,306	391,601	37,849	309,450	44,302	9.7
Brant	213,274	2,570	215,844	177,599	16,468	21,777	82.3
Bruce	846,830	54,384	901,214	527,773	209,869	163,572	58.6
Carleton	564,179	4,337	568,516	308,037	85,059	175,420	54.2
Dufferin	354,615	1,488	356,103	240,427	42,585	73,091	67.5
Dundas	231,112	4,875	235,987	152,924	36,403	46,660	64.8
Durham	365,951	4,348	370,299	292,034	34,833	43,432	78.9
Elgin	435,244	552	435,796	331,731	96,612	7,453	76.1
Essex	429,531	1,535	431,066	283,554	135,757	11,755	65.8
Frontenac	621,962	69,004	690,966	258,025	240,294	192,647	37.3
Glengarry	285,159	611	285,770	188,490	83,819	13,461	66.0
Grenville	265,758	5,574	271,332	170,220	46,582	54,530	62.7
Grey	1,054,056	6,613	1,060,669	646,943	203,323	210,403	61.0
Haldimand	279,375	1,254	280,629	230,913	44,778	4,938	82.3
Haliburton	553,918	15,365	569,283	36,313	472,462	60,508	6.4
Halton	224,460	882	225,342	168,650	35,522	21,170	74.8
Hastings	951,935	78,574	1,030,509	400,417	466,450	163,642	38.9
Huron	796,974	1,467	798,441	622,886	85,358	90,197	78.0
Kent	565,604	1,645	567,249	418,196	130,436	18,617	73.7
Lambton	655,922	4,364	660,286	397,517	245,130	17,639	60.2
Lanark	653,645	21,504	675,149	313,844	211,932	149,373	46.5
Leeds	463,279	3,312	466,591	283,132	123,385	60,074	60.7
Lennox and Addington	430,352	7,876	438,228	280,214	104,452	53,562	63.9
Lincoln	183,857	7,416	191,273	160,379	30,009	885	83.8
Manitoulin	189,239	23,670	212,909	39,015	102,990	70,904	18.3
Middlesex	753,546	4,102	757,648	592,139	156,787	8,722	78.2
Muskoka	491,857	42,366	534,223	59,228	368,145	106,850	11.1
Nipissing	231,922	59,017	290,939	24,744	228,536	37,659	8.5
Norfolk	398,588	3,241	401,829	259,732	111,621	30,476	64.6
Northumberland	434,625	1,145	435,770	337,415	56,213	42,142	77.4
Ontario	493,489	7,133	500,622	362,309	34,627	103,686	72.4
Oxford	471,468	259	471 727	376,481	70,117	25,129	79.8
Parry Sound	534,108	46,674	580,782	62,944	441,003	76,835	10.8
Peel	284,110	3,877	287,987	252,657	22,242	13,088	87.7
Perth	514,916	3,712	518,628	422,012	60,045	36,571	81.4
Peterborough	553 907	16,880	570,787	249,612	194,239	126,936	43.7
Prescott	286,757	4,472	291,229	165,337	114,720	11,172	56.8
Prince Edward	219,800	12,805	232,605	197,871	19,276	15,458	85.1
Rainy River	79,657	17,931	97,588	4,808	87,082	5,698	4.9
Renfrew	938,664	37,723	976,387	312,964	468,390	195,033	32.1
Russell	232,241	18,615	250,856	97,602	152,589	665	38.9
Simcoe	935,127	28,198	963,325	578,730	268,725	115,870	60.1
Stormont	244,915	3,903	248,818	148,097	88,111	12,610	59 5
Thunder Bay	200,102	57,111	257,213	5,463	250,407	1,343	2.1
Victoria	553,905	43,885	597,790	271,967	120,903	204,920	45.5
Waterloo	303,898	2,999	306,897	247,789	37,943	21,165	80.7
Welland	220,184	7,067	227,251	180,004	41,407	5,840	79.2
Wellington	626,839	504	627,343	474,610	62,206	90,527	75.7
Wentworth	270,289	1,770	272,059	214,200	32,108	25,751	78.7
York	533,642	3,107	536,749	431,409	45,963	59,377	80.4
The Province :							
1900	22,728,082	840,022	23,568,104	13,297,206	7,127,363	3,143,535	56.4
1899	22,670,958	780,134	23,451,092	13,111,292	7,149,404	3,190,396	55.9
1898	22,492,838	899,746	23,392,584	12,993,614	7,198,905	3,200,065	55.5
1897	22,403,060	957,368	23,360,428	12,853,081	7,294,026	3,213,321	55.0
1896	22,174,899	997,509	23,172,408	12,671,851	7,264,167	3,236,390	54.7
1895	22,131,895	981,420	23,113,315	12,426,992	7,777,451	2,908,872	53.8
1894	22,032.799	1,006,175	23,038,974	12,292,610	7,859,714	2,886,650	53.4
1893	21,940,726	1,018,554	22,959,280	12,131,564	8,133,229	2,694,487	52.8
1892	21,923,424	962,040	22,885.464	11,990,140	8,264,881	2,630,443	52.4
1891	21,589,562	946,421	22,535,983	11,802,487	8,376,762	2,356,734	52.4

FALL WHEAT AND SPRING WHEAT.

TABLE IX. Showing by County Municipalities of Ontario the area, produce and market value of the crops of Fall Wheat and Spring Wheat for the year 1900, together with the totals for the Province for the past ten years and the average for the nineteen years 1882-1900; also the averages per acre.

Counties and districts.	Fall wheat.					Spring wheat.				
	Acres.	Bushels.	Yield per acre.	Market value.	Market value per acre.	Acres.	Bushels.	Yield per acre.	Market value.	Market value per acre.
				$	$ c.				$	$ c.
*Algoma	331	6,786	20.5	4,506	13 61	2,455	48,609	19.8	32,811	13 37
Brant	34,481	689,620	20.0	457,908	13 28	309	4,759	15.4	3,212	10 40
Bruce	41,149	962,887	23.4	639,357	15 54	4,333	71,495	16.5	48,259	11 14
Carleton	99	2,376	24.0	1,578	15 94	15,033	302,163	20.1	203,960	13 57
Dufferin	11,441	191,065	16.7	126,867	11 09	12,755	235,968	18 5	159,278	12 49
Dundas	465	9,765	21 0	6,484	13 94	2,442	45,177	18.5	30,494	12 49
Durham	11,116	253,445	22.8	168,287	15 14	20,030	360,540	18 0	243,365	12 15
Elgin	42,853	998,475	23.3	662,987	15 47	39	612	15.7	413	10 60
Essex	34,465	441,152	12.8	292,925	8 50	324	4,504	13 9	3,040	9 38
Frontenac	641	12,628	19.7	8,385	13 08	8,862	163,061	18.4	110,066	12 42
Glengarry	64	1,152	18.0	765	11 95	6,372	132,538	20 8	89,463	14 04
Grenville	165	3,350	20.3	2,224	13 48	2,121	44,753	21.1	30,208	14 24
Grey	30,539	644,373	21 1	427,864	14 01	9,824	161,114	16 4	108,752	11 07
Haldimand	42,706	866,932	20.3	575,643	13 48	1,585	24,251	15.3	16,369	10 33
Haliburton	375	6,863	18 3	4,557	12 15	1,210	17,424	14.4	11,761	9 72
Halton	28,961	657,415	22.7	436,524	15 07	4,210	72,833	17.3	49,162	11 68
Hastings	8,039	168,819	21.0	112,096	13 94	17,142	299,985	17.5	202,490	11 81
Huron	64,146	1,642,138	25 6	1,090,380	17 00	2,675	43,603	16.3	29,432	11 00
Kent	75,756	1,249,974	16.5	829,983	10 96	1,597	24,754	15.5	16,709	10 46
Lambton	67,496	1,376,918	20.4	914,274	13 55	1,214	15,175	12 5	10,243	8 44
Lanark	2,381	29,286	12.3	19,446	8 17	14,437	298,846	20.7	201,721	13 97
Leeds	2,700	41,040	15.2	27,250	10 09	5,850	109,980	18.8	74,237	12 69
Lennox & Ad.	2,180	46,216	21 2	30,687	14 08	10,416	172,906	16.6	116,712	11 21
Lincoln	23,136	448,838	19.4	298,028	12 88	921	15,381	16.7	10,382	11 27
Manitoulin	1,196	21,528	18.0	14,295	11 95	2,150	46,440	21.6	31,347	14 58
Middlesex	83,639	1,865,150	22.3	1,238,460	14 81	1,208	18,724	15 5	12,639	10 46
Muskoka	157	3,077	19.6	2,043	13 01	1,022	17,067	16.7	11,520	11 27
Nipissing	20	400	20.0	266	13 28	1,053	19,481	18.5	13,150	12 49
Norfolk	43,929	878,580	20.0	583,377	13 28	253	3,922	15 5	2,647	10 46
Northumb'lnd	15,048	361,152	24 0	239,805	15 94	27,912	438,218	15.7	295,797	10 60
Ontario	15,495	343,989	22.2	228,409	14 74	27,560	526,396	19.1	355,317	12 89
Oxford	50,094	1,312,463	26.2	871,475	17 40	256	4,198	16.4	2,834	11 07
Parry Sound	114	2,018	17.7	1,340	11 75	1,709	28,711	16,8	19,380	11 34
Peel	30,359	601,108	19.8	399,136	13 15	12,355	253,278	20.5	170,963	13 84
Perth	45,937	1,194,362	26.0	793,056	17 26	1,578	28,562	18.1	19,280	12 22
Peterborough	10,903	278,027	25.5	184,610	16 93	14,816	271,133	18 3	183,015	12 35
Prescott	21	437	20.8	290	13 81	6,375	100,088	15.7	67,560	10 60
Prince Edw'rd	5,757	123,200	21.4	81,805	14 21	12,101	168,204	13.9	113,538	9 38
Renfrew	190	3,895	20.5	2,586	13 61	30,650	588,480	19.2	397,224	12 96
Russell	64	1,600	25.0	1,062	16 60	2,954	59,671	20.2	40,278	13 64
Simcoe	68,872	1,728,687	25.1	1,147,848	16 67	20,254	370,648	18 3	250 187	12 35
Stormont	76	1,110	14.6	737	9 69	3,018	50,702	16.8	34,224	11 34
Victoria	6,881	157,575	22.9	104,630	15 21	23,431	463,934	19.8	313,155	13 37
Waterloo	42,858	1,002,877	23.4	665,910	15 54	451	8,749	19.4	5,906	13 10
Welland	24,168	461,609	19.1	306,508	12 68	427	5,636	13.2	3,804	8 91
Wellington	21,682	505,191	23.3	335,447	15 47	6,647	128,287	19.3	86,594	13 03
Wentworth	35,014	770,308	22.0	511,485	14 61	1,390	20,850	15.0	14,074	10 13
York	40,481	999,881	24.7	663,920	16 40	31,179	648,523	20 8	437,753	14 04
The Province:										
1900	1,068,640	23,369,737	21 9	15,517,505	14 52	376,905	6,940,333	18.4	4,684,725	12 43
1899	1,049,691	14,439,827	13.8	9,631 365	9 18	398,726	7,041,317	17.7	4,682,476	11 74
1898	1,048,182	25,158,713	24.0	17,460,147	16 66	389,205	6,873,785	17.7	4,756,659	12 22
1897	950,222	23,988,051	25.2	18,758,656	19 74	323,305	4,868,101	15.1	3,826,327	11 84
1896	876,955	15,078,441	17.2	10,705,693	12 21	255,361	3,519,322	13.3	2,484,641	9 73
1895	743,199	14,155,282	19.0	9,809,610	13 20	233,957	3,472,543	15.5	2,423,835	10 82
1894	778,992	16,512,106	21.2	9,081,658	11 66	230,016	3,367,854	14.6	1,869,159	8 13
1893	913,954	17,545,248	19.2	10,509,604	11 50	356,721	4,186,063	11.7	2,486,521	6 97
1892	966,522	20,492,497	21.2	14,488,195	14 99	651,302	8,290,395	12.7	5,620,888	8 63
1891	849,956	21,872,488	25.7	20,800,736	24 47	510,634	10,711,538	21.0	9,951,019	19 49
1882-1900	917,096	18,491,171	20.2	14,656,383	15 98	465,314	7,231,037	15.5	5,917,279	12 72

* Including Thunder Bay and Rainy River in this and succeeding tables.

BARLEY AND OATS.

TABLE X. Showing by County Municipalities of Ontario, the area, produce and market value of the crops of Barley and Oats for the year 1900, together with the totals for the Province for the past ten years and the average for the nineteen years, 1882 1900; also the averages per acre.

Counties and districts.	Barley.					Oats.				
	Acres.	Bushels.	Yield per acre.	Market value.	Market value per acre.	Acres.	Bushels.	Yield per acre.	Market value.	Market value per acre.
				$	$ c.				$	$ c.
Algoma	1,062	32,603	30.7	12,683	11 94	8,477	339,928	40.1	90,081	10.63
Brant	11,120	296,904	26.7	115,496	10 39	21,971	775,576	35.3	205,528	9 35
Bruce	16,767	471,153	28.1	183,279	10 93	96,503	3,367,955	34 9	892,508	9 25
Carleton	8,995	258,157	28.7	100,423	11 16	78,757	2,851,003	36.2	755,516	9 60
Dufferin	13,077	409,310	31.3	159,222	12 18	65,562	2,661,817	40.6	705,382	10 76
Dundas	2,931	85,585	29 2	33,292	11 36	34,688	1,224,486	35.3	324,489	9 35
Durham	27,197	756,077	27.8	294,114	10 81	46,480	1,719,760	37.0	455,736	9 81
Elgin	10,024	311,746	31.1	121,269	12 10	45,806	1,878,046	41.0	497,682	10 87
Essex	9,109	257,785	28.3	100,278	11 01	49,067	2,021,560	41.2	535,713	10 92
Frontenac	6,356	153,815	24 2	59,834	9 41	42,182	1,181,096	28.0	312,990	7 42
Glengarry	4,573	131,245	28.7	51,054	11 16	41,960	1,489,580	35.5	394,739	9 41
Grenville	3,072	86,630	28.2	33,699	10 97	34,544	1,095,045	31.7	290.187	8 40
Grey	20,839	543,898	26.1	211,576	10 15	138,801	4,372,231	31.5	1,158,641	8 35
Haldimand	7,988	199,700	25.0	77,683	9 73	31,376	1,073,057	34.2	284,360	9 06
Haliburton	296	61,272	20.7	23,835	8 05	5,795	171,532	29.6	45,456	7 84
Halton	7,612	232,927	30.6	90,609	11 90	23,138	832,968	36.0	220,737	9 54
Hastings	21,055	539,008	25.6	209,674	9 96	60,685	2,075,427	34.2	549,988	9 06
Huron	26,671	786,795	29.5	306,063	11 48	120,250	4,485,325	37.3	1,188,611	9 88
Kent	17,707	566,624	32.0	220,417	12 45	49,671	2,215,327	44.6	587,061	11 82
Lambton	18,855	576,963	30.6	224,439	11 90	72,185	3,096,737	42.9	820,635	11 37
Lanark	3,538	114,277	32.3	44,454	12 56	48,083	1,721,371	35.8	456,163	9 49
Leeds	4,776	120,355	25.2	46,818	9 80	48,592	1,545,226	31.8	409,485	8 43
Lennox & Ad.	19,211	461,064	24.0	179,354	9 34	38,773	1,167,067	30.1	309,273	7 98
Lincoln	1,959	47,604	24.3	18,518	9 45	22,217	713,166	32.1	188,989	8 51
Manitoulin	758	21,527	28 4	8,374	11 05	5,115	175,956	34.4	46,628	9 12
Middlesex	18,580	581,554	31.3	226,225	12 18	90,474	3,980,856	44.0	1,054,927	11 66
Muskoka	813	19,024	23.4	7,400	9 10	11,121	339,191	30.5	89,886	8 08
Nipissing	311	9,019	29.0	3,508	11 28	3,962	146,594	37.0	38,847	9 81
Norfolk	5,514	138,953	25.2	54,054	9 80	32,290	1,065.570	33.0	282.376	8 75
Northumbr'ld.	14,978	371,454	24.8	144,495	9 65	43,054	1,407,866	32.7	373,085	8 67
Ontario	27,471	796,659	29.0	309,900	11 28	72,852	2,899,510	39.8	768,370	10 55
Oxford	16,490	545,819	33.1	212,323	12 88	69,954	3,077,976	44 0	815,664	11 66
Parry Sound	810	20,493	25.3	7,972	9 84	12,414	392,282	31.6	103,955	8 37
Peel	25,549	802,239	31.4	312,071	12 21	43,832	1,814,645	41.4	480,881	10 97
Perth	22,049	749,666	34.0	291,620	13 23	97,371	4,362,221	44.8	1,155,989	11 87
Peterborough	7,512	193,058	25.7	75,100	10 00	41,526	1,445,105	34.8	382,953	9 22
Prescott	2,861	78,105	27.3	30,383	10 62	38,517	1,271,061	33.0	336,831	8 75
Prince Edward	12,842	264,545	20.6	102,908	8 01	17,562	498,761	28.4	132,172	7 53
Renfrew	1,857	47,354	25.5	18,421	9 92	49,217	1,761,969	35.8	466,922	9 49
Russell	3,217	92,650	28.8	36,041	11 20	26,080	1,011,904	38.8	268,155	10 28
Simcoe	34,516	1,021,674	29.6	397,431	11 51	99,856	3,694,672	37.0	979,088	9 81
Stormont	3,717	95,527	25.7	37,160	10 00	29,284	1,033,725	35.3	273,937	9 35
Victoria	16,234	472,409	29.1	183,767	11 32	60,845	2,299,941	37.8	609,484	10 02
Waterloo	17,475	548,715	31.4	213,450	12 21	57,262	2,244,670	39.2	594,838	10 39
Welland	2,184	53,726	24.6	20,899	9 57	24,489	766,506	31.3	203,124	8 29
Wellington	30,087	1,004,906	33.4	390,908	12 99	125,300	5,074,650	40.5	1,344,782	10 73
Wentworth	8,875	252,938	28.5	98,393	11 09	34,748	1,320,424	38.0	349,912	10 07
York	38,320	1,226,240	32.0	477,007	12 45	86,146	3,531,986	41.0	935,976	10 87
The Province:										
1900	577,810	16,909,751	29.3	6,577,893	11 38	2,398,834	89,693,327	37.4	23,768,732	9 91
1899	490,374	14,830,891	30.2	5,858,202	11 95	2,363,778	89,897,724	38.0	24,901,670	10 53
1898	438,784	12,663,668	28.9	4,812,194	10 97	2,376,360	86,858,293	36.6	22,409,440	9 43
1897	451,515	12,021,779	26.6	3,245,880	7 19	2,432,491	86,318,128	35.5	19,502,897	8 02
1896	462,792	12,669,744	27.4	4,003,639	8 65	2,425,107	82,979,992	34.2	16,595,998	6 84
1895	478,046	12,090,507	25.3	4,884,565	10 22	2,373,309	84,697,566	35 7	24,646,992	10 39
1894	486,261	10,980,404	22.6	4,447,064	9 15	2,342,766	70,172,516	30.0	21,613,135	9 23
1893	467,315	9,806,088	21.0	3,932,241	8 41	1,936,644	58,584,529	20.3	19,450,064	10 04
1892	499,225	12,274,318	24.6	5,069,293	10 15	1,861,469	64,758,053	34.8	19,945,480	10 71
1891	553,166	16,141,904	29.2	7,925,675	14 33	1,840,636	75,009,542	40.8	17,378,483	14 87
1882-1900	620,241	16,196,877	26.1	7,805,362	12 58	1,954,884	68,319,271	34.9	21,211,280	10 85

PEAS AND BEANS.

TABLE XI. Showing by County Municipalities of Ontario, the area, produce and market value of the crops of Peas and Beans for the year 1900, together with the totals for the Province for the past ten years and the average for the nineteen years, 1882-1900; also the averages per acre.

Counties and Districts.	Peas.					Beans.				
	Acres.	Bushels.	Yield per acre	Market value.	Market value per acre.	Acres.	Bushels.	Yield per acre.	Market value.	Market value per acre
				$	$ c.				$	$ c.
Algoma	3,120	63,336	20.3	36,165	11 59	17	340	20.0	339	19 94
Brant	6,694	122,500	18.3	69,947	10 45	345	5,658	16.4	5,641	16 35
Bruce	53,106	1,173,643	22.1	670,150	12 62	68	1,020	15.0	1,017	14 95
Carleton	5,279	109,275	20.7	62,396	11 82	158	2,860	18.1	2,852	18 05
Dufferin	15,259	337,224	22.1	192,555	12 62	.....	.....	.....	.....	....
Dundas	1,270	25,527	20.1	14,576	11 48	139	1,960	14.1	1,954	14 06
Durham	26,434	623,842	23.6	356,214	13 48	360	5,976	16.6	5,958	16 55
Elgin	5,012	100,741	20.1	57,523	11 48	3,785	72,294	19.1	72,077	19 04
Essex	2,286	43,663	19.1	24 931	10 91	1,031	17,527	17 0	17,474	16 95
Frontenac	5,937	105,679	17.8	60,343	10 16	302	4,530	15.0	4,516	14 96
Glengarry	3,718	65,437	17.6	37,365	10 05	112	1,680	15.0	1,675	14 96
Grenville	1,155	22,638	19.6	12,926	11 19	95	1,710	18.0	1,705	17 95
Grey	52,405	1,116,227	21.3	637,366	12 16	251	3,389	13.5	3,379	13 46
Haldimand	14,251	275,034	19.3	157,044	11 02	79	1,343	17.0	1,339	16 95
Haliburton	1,295	21,756	16.8	12,423	9 59	9	162	18.0	162	18 00
Halton	10,251	215,271	21.0	122,920	11 99	51	765	15.0	763	14 96
Hastings	19,484	368,248	18.9	210,270	10 79	387	6,192	16.0	6,173	15 95
Huron	38,514	924,336	24.0	527,796	13 70	147	3,410	23.2	3,400	23 13
Kent	3,642	65,556	18.0	37,432	10 28	29,124	559,181	19.2	557,503	19 14
Lambton	7,428	128,504	17.3	73,375	9 88	602	9,993	16.6	9,963	16 55
Lanark	10,097	219,105	21.7	125,109	12 39	155	2,883	18.6	2,874	18 54
Leeds	2,947	54,814	18.6	31,299	10 62	275	5,500	20.0	5,484	19 94
Lennox & Add.	11,691	180,041	15.4	102,803	8 79	309	4,944	16.0	4,929	15 95
Lincoln	6,591	114,683	17.4	65,484	9 93	305	5,307	17.4	5,291	17 35
Manitoulin	4,631	113,460	24.5	64,786	13 99	60	1,200	20.0	1,196	19 94
Middlesex	14,550	293,910	20.2	167,823	11 53	505	10,201	20.2	10,170	20 14
Muskoka	2,744	53,508	19.5	30,553	11 13	15	300	20.0	299	19 94
Nipissing	1,463	29,260	20.0	16,707	11 42	19	361	19.0	360	18 94
Norfolk	6,263	91,440	14.6	52,212	8 34	597	9,731	16.3	9,702	16 25
Northumberland	25,703	521,771	20.3	297,931	11 59	715	12,012	16.8	11,975	16 75
Ontario	21,798	457,758	21.0	261,380	11 99	173	2,768	16.0	2,760	15 95
Oxford	9,118	198,772	21.8	113,499	12 45	170	3,502	20.6	3,491	20 53
Parry Sound	3,344	71,896	21 5	41,053	12 28	52	1,040	20.0	1,037	19 94
Peel	15,222	327,273	21.5	186,873	12 28	65	975	15.0	972	14 96
Perth	26,100	647,280	24.8	369,597	14 16	190	2,850	15.0	2,842	14 96
Peterborough	18,993	455,832	24.0	260,280	13 70	104	1,560	15.0	1,556	14 96
Prescott	3,543	48,539	13.7	27,716	7 82	244	4,465	18.3	4,452	18 25
Prince Edward	13,884	195,764	14.1	111,781	8 05	807	11,459	14.2	11,425	14 16
Renfrew	22,592	465,395	20.6	265,741	11 76	335	6,466	19.3	6,447	19 24
Russell	1,758	27,776	15.8	15,860	9 02	88	1,848	21.0	1,843	20 94
Simcoe	54,149	1,267,087	23.4	723,507	13 36	111	1,687	15.2	1,682	15 15
Stormont	1,438	20,995	14.6	11,988	8 34	73	1,241	17.0	1,237	16 95
Victoria	19,442	425,780	21.9	243,120	12 50	265	5,300	20.0	5,284	19 94
Waterloo	14,008	301,172	21.5	171,969	12 28	61	1,220	20.0	1,216	19 94
Welland	5,482	96,483	17.6	55,092	10 05	916	15,297	16.7	15,251	16 65
Wellington	34,848	843,322	24.2	481,537	13 82	21	315	15.0	314	14 96
Wentworth	11,047	198,846	18.0	113,541	10 28	76	1,277	16.8	1,273	16 75
York	21,606	427,799	19 8	244,273	11 31	285	4,674	16.4	4 669	16 34
The Province:										
1900	661,592	14,058,198	21.2	8,027,231	12 13	44,053	820,373	18 6	817,912	18 57
1899	743,139	15,140,790	20.4	8,676,673	11 67	40,485	651,009	16.1	703,090	17 37
1898	865,951	13,521,263	15.6	7,058,099	8 15	45,220	759,657	16.8	531,760	11 76
1897	896,735	13,867,093	15 5	5,838,046	6 51	50,591	981,340	19.4	639,834	12 65
1896	829,601	17,493,148	21.1	7,696,985	9 28	68,369	1,197,535	17.5	819,114	11 98
1895	799,963	15,668,103	19.5	8,531,320	10 66	72,747	1,494,179	20.5	1,414,988	19 45
1894	785,007	14,022,888	17 9	7,516,268	9 57	59,281	827,514	14.0	913,575	15 41
1893	738,741	14,168,955	19.2	7,651,236	10 36	48,858	664,310	14.6	783,836	16 04
1892	774,732	14,494,430	18.7	8,551,714	11 04	33,249	535,931	16.1	529,500	15 93
1891	752,453	18,323,459	24.4	11,690,367	15 54	41,451	769,600	18.6	816,546	19 70
1882 1900	725,531	14,285,339	19.7	8,172,715	11 26	38,150	664,514	17.4	663,396	17 39

RYE AND BUCKWHEAT.

TABLE XII. Showing by County Municipalities of Ontario, the area, produce and market value of the crops of Rye and Buckwheat for the year 1900, together with the totals for the Province for the past ten years, and the average for the nineteen years, 1882-1900; also the averages per acre.

Counties and Districts.	Rye.					Buckwheat.				
	Acres.	Bushels.	Yield per acre.	Market value.	Market value per acre.	Acres.	Bushels.	Yield per acre.	Market value.	Market value per acre.
				$	$ c.				$	$ c.
Algoma	123	2,214	18.0	1,074	8 73	137	2,740	20.0	1,197	8 74
Brant	2,260	42,262	18.7	20,497	9 07	1,123	19,091	17.0	8,343	7 43
Bruce	1,189	21,997	18.5	10,669	8 97	1,350	22,680	16.8	9,911	7 35
Carleton	1,676	29,162	17.4	14,144	8 44	4 207	88,347	21.0	38,608	9 18
Dufferin	4,353	74,872	17.2	36,313	8 34	747	16,434	22.0	7,182	9 61
Dundas	946	17,501	18.5	8,488	8 97	2,472	41,777	16.9	18,257	7 39
Durham	9,309	142,428	15.3	69,078	7 42	3,958	72,431	18.3	31,652	8 00
Elgin	1,735	34,700	20.0	16,829	9 70	3,145	55,981	17 8	24,464	7 78
Essex	939	17,184	18.3	8,334	8 88	646	8,592	13.3	3,755	5 81
Frontenac	4,892	68,488	14.0	33,217	6 79	2,307	32,298	14.0	14,114	6 12
Glengarry	326	4,890	15.0	2,372	7 28	1,428	35,700	25.0	15,601	10 90
Grenville	1,518	28,387	18.7	13,768	9 07	4,022	95,321	23.7	41,655	10 36
Grey	1,987	33,978	17.1	16,479	8 29	2,750	62,425	22.7	27,280	9 92
Haldimand	2,332	44,308	19.0	21,489	9 22	718	9,621	13.4	4,204	5 86
Haliburton	411	7,151	17.4	3,468	8 44	516	11,352	22.0	4,960	9 61
Halton	702	12,285	17.5	5,958	8 49	204	4,080	20.0	1,783	8 74
Hastings	12,564	204,793	16.3	99,325	7 91	5,621	107,361	19.1	46,917	8 35
Huron	1,167	24,857	21.3	12,056	10 33	712	16,234	22 8	7.094	9 96
Kent	694	15,754	22.7	7,640	11 01	869	12,079	13.9	5,279	6 07
Lambton	336	6,888	20.5	3,341	9 94	472	8,968	19.0	3,919	8 30
Lanark.	1,571	29,064	18.5	14,096	8 97	3,731	86,186	23.1	37,663	10 09
Leeds	2,034	35,595	17.5	17,263	8 49	3,310	79,440	24.0	34,715	10 49
Lennox & Add.	5,541	89,210	16.1	43,267	7 81	5,355	68,009	12.7	29.720	5 55
Lincoln	1,509	24,899	16.5	12,076	8 00	251	3,840	15.3	1,678	6 69
Manitoulin	192	3,821	19.9	1,853	9 65	107	1,070	10.0	468	4 37
Middlesex	819	17,363	21.2	8,421	10 28	987	19,148	19.4	8,368	8 48
Muskoka	373	7,012	18.8	3,401	9 12	210	4,578	21.8	2,000	9 53
Nipissing	64	1,280	20.0	621	9 70	44	880	20.0	385	8 74
Norfolk	7,845	123,167	15.7	59,737	7 61	6,476	106,206	16.4	46,412	7 17
Northumberland	16,050	211,860	13.2	102,752	6 40	8,041	102,925	12.8	44,978	5 59
Ontario	5,674	95,323	16.8	46,232	8 15	4,094	79,424	19.4	34,708	8 48
Oxford	1,744	34,531	19.8	16,747	9 60	1,425	23,798	16.7	10,400	7 30
Parry Sound	405	7,857	19.4	3,811	9 41	180	3,600	20.0	1,573	8 74
Peel	4,269	85,807	20.1	41,616	9 75	605	15,125	25.0	6,610	10 93
Perth	227	4,540	20.0	2,202	9 70	189	4,215	22.3	1,842	9 75
Peterborough	5,656	94,455	16.7	45,810	8 10	2,243	42,168	18.8	18,427	8 22
Prescott	135	2,025	15.0	982	7 28	1,309	26,573	20.3	11,612	8 87
Prince Edward	10,931	145,382	13.3	70,510	6 45	6,359	71,857	11.3	31,462	4 94
Renfrew	4,284	81,824	19.1	39,685	9 26	1,549	36,092	23.3	15,772	10 18
Russell	171	3,078	18 0	1,493	8 73	1,102	17,632	16.0	7,705	6 99
Simcoe	6,808	116,417	17.1	56,462	8 29	5,850	108,725	18.5	47,513	8 02
Stormont	132	2,376	18.0	1,152	8 73	2,118	54,644	25.8	23,880	11 27
Victoria	5,081	101,112	19 9	49,039	9 65	3,422	72,204	21.1	31,553	9 22
Waterloo	1,407	27,014	19.2	13,102	9 31	571	11,420	20.0	4,991	8 74
Welland	1,701	26,195	15.4	12,705	7 47	1,919	32,239	16.8	14,088	7 34
Wellington	1,260	24,500	19.6	11,883	9 43	1,208	27,301	22.6	11,931	9 88
Wentworth	1,899	36,841	19 4	17,867	9 41	1,120	19,040	17.0	8,320	7 43
York	4,972	90,988	18.3	44,129	8 88	1,391	32,410	23.3	14,163	10 18
The Province:										
1900	142,213	2,357,635	16.6	1,143,453	8 04	102,570	1,874,261	18.3	819,052	7 98
1899	137,824	2,284,846	16.6	1,142,423	8 29	132,082	2,203,299	16.7	1,002,501	7 59
1898	165,089	2,673,234	16.2	1,162,857	7 04	150,394	2,373,645	15.8	906,732	6 03
1897	*187,785	3,382,005	18.0	1,275,016	6 79	151,669	3,464,186	22.8	1,039,256	6 85
1896	148,680	2,230,873	15.0	816,500	5 49	145,606	2,603,669	17.9	794,119	5 45
1895	120,350	1,900,117	15.8	866,453	7 20	135,262	2,791,749	20.6	1,027,364	7 60
1894	90,144	1,386,606	15.4	612,880	6 80	145,268	2.534,335	17.4	993,450	6 84
1893	68,486	994,771	14.5	472,516	6 90	133,828	1,380,466	17.8	995,031	7 44
1892	73,073	1,132,504	15.5	631,937	8 65	125,104	2,521,214	20.2	1,063,952	8 50
1891	67,865	1,134,630	16 7	820,337	12 09	107,879	2,608,142	24.2	1,150,191	10 66
1882-1900	114,210	1,851,300	16.2	959,190	8 40	100,741	1,941,359	19.3	763,483	7 58

CORN.

TABLE XIII. Showing by County Municipalities of Ontario the area, produce and market value of the crops of Corn for husking and for fodder for the year 1900, together with the totals for the Province for the past nine years, and the average for the nine years 1892-1900; also the averages per acre.

Counties and Districts.	Corn for Husking.					Corn for Silo and Fodder.				
	Acres.	Bushels.	Yield per acre.	Market value.	Market value per acre.	Acres.	Tons (green)	Tons per acre.	Market value.	Market value per acre.
				$	$ c.				$	$ c.
Algoma	69	2,760	40.	875	12 68	80	480	6.00	960	12 00
Brant	7,139	506,869	71.	160,677	22 51	3,548	42,576	12.00	85,152	24 00
Bruce	1,069	53,450	50.	16,944	15 85	3,363	38,944	11.58	77,888	23 16
Carleton	1,894	121,216	64.	38,425	20 29	8,357	115,327	13.80	230,654	27 60
Dufferin	39	1,560	40.	495	12 68	584	7,300	12.50	14,600	25 00
Dundas	4,409	330,675	75.	104,824	23 78	7,120	104,878	14.73	209,756	29 46
Durham	2,547	132,444	52.	41,985	16 48	3,200	33,280	10.40	66,560	20 80
Elgin	28 108	2,812,392	99.	891,528	31 38	3,162	35,256	11.15	70,512	22 30
Essex	64,897	5,710,936	88.	1,810,367	27 90	2,031	10,663	5.25	21,326	10 50
Frontenac	3,611	285,269	79.	90,430	25 04	3,847	44,241	11.50	88,482	23 00
Gleugarry	1,282	89,740	70.	28,448	22 19	5,064	78 998	15.60	157,996	31 20
Grenville	4,868	394,308	81.	124,996	25 68	5,531	69,691	12 60	139,382	25 20
Grey	632	31,600	50.	10,017	15 85	3,821	48,450	12.68	96,900	25 36
Haldimand	3,807	270,297	71.	85,684	22 51	1,982	17,600	8.88	35,200	17 76
Haliburton	152	8,360	55.	2,650	17 44	144	2,016	14.00	4,032	28 00
Halton	1,237	89 064	72.	28,233	22 82	3,315	27,481	8.29	54,962	16 58
Hastings	7,999	479,940	60.	152,141	19 02	7,184	79,024	11 00	158,048	22 00
Huron	1,935	116,100	60.	36,804	19 02	6,464	86,553	13 39	173,106	26 78
Kent	52,672	5,056,512	96.	1,602,914	30 43	3,258	21,470	6.59	42,940	13 18
Lambton	20,380	1,773,060	87.	562,060	27 58	3,364	35,221	10 47	70,442	20 94
Lanark	2,782	166,920	60.	52 914	19 02	5,964	85,404	14.32	170,808	28 64
Leeds	7,960	557,200	70.	176,632	22 19	6,375	81,026	12 71	162,052	25 42
Lennox and Addington	5,043	292,494	58.	92,721	18 39	2,468	21,225	8.60	42,450	17 20
Lincoln	7,863	621,177	79.	196 913	25 04	1,618	14,222	8.79	28,444	17 58
Manitoulin	58	4,350	75.	1,379	23 78	282	3,666	13.00	7,332	26 00
Middlesex	18,947	1,629,442	86.	516,533	27 26	8,390	94,723	11 29	189,446	22 58
Muskoka	241	10,845	45.	3,438	14 27	222	2,664	12.00	5,328	24 00
Nipissing	44	1,760	40.	558	12 68	12	120	10.00	240	20 00
Norfolk	21,446	1,694,234	79.	537,072	25 04	3,761	38,701	10.29	77,402	20 58
Northumberl'd	5,350	310,300	58.	98,365	18 39	4,273	50,592	11 84	101,184	23 68
Ontario	2,822	237,048	84.	75,144	26 63	5,018	59,815	11.92	119,630	23 84
Oxford	12,124	933,548	77.	295,935	24 41	7,485	91,167	12.18	182,334	24 36
Parry Sound	139	5,560	40	1,763	12 68	167	1,670	10 00	3,340	20 00
Peel	707	35,350	50.	11,206	15 85	2,933	35,929	12.25	71,858	24 50
Perth	494	29,640	60.	9,396	19 02	7,318	94,768	12.95	189,536	25 90
Peterborough	567	25,515	45.	8,088	14 27	2,382	29,632	12.44	59,264	24 88
Prescott	2,850	176,700	62.	56,014	19 65	1,735	17,350	10.00	34,700	20 00
Prince Edward	8,960	448,000	50.	142,016	15 85	3,504	25,229	7 20	50,458	14 40
Renfrew	845	39,715	47.	12,590	14 90	3,714	46,945	12.64	93,890	25 28
Russell	947	42,615	45.	13,509	14 27	2,603	38,186	14.67	76,372	29 34
Simcoe	1,962	143,226	73.	45,402	23 14	4,196	51,737	12.33	103,474	24 66
Stormont	2,458	167,144	68.	52,985	21 56	4,533	60,425	13 33	120,850	26 66
Victoria	360	18,000	50.	5,706	15 85	2,898	37,993	13.11	75,986	26 22
Waterloo	1,517	107,707	71.	34,143	22 51	4,545	61,267	13.48	122,534	26 96
Welland	9,094	691,144	76.	219,092	24 09	1,575	13,388	8.50	26,776	17 00
Wellington	265	15,900	60.	5,040	19 02	4,003	34,106	8.52	68,212	17 04
Wentworth	4,481	336,075	75.	106 536	23 78	4,653	60,163	12 93	120,326	25 86
York	1,400	85,400	61.	27,072	19 34	7,752	95,970	12.38	191,940	24 76
The Province.										
1900	330,772	27,093,561	81.9	8,588,659	25 97	179,798	2,147,532	11 94	4,295,064	23 89
1899	333,590	21,673,234	65.0	4,291,300	12 86	171,935	1,697,755	9.87	3,395,510	19 75
1898	330,748	23,442,593	70.9	4,711,961	14 25	189,948	2,128,073	11.20	4,256,146	22 41
1897	335,030	24,663,998	73.6	4,858,808	14 50	209,005	2,669,822	12.77	5,339,644	25 55
1896	317 667	24,071,364	75.8	4,717,987	14 85	178,962	1,948,780	10.89	3,897,560	21 78
1895	302,929	24,819,899	81.9	5,609,296	18 52	149,899	1,775,654	11.85	3,551,308	23 69
1894	267,348	16,275,352	60.9	4,247,867	15 89	111,361	1,049,765	9.43	2,099,530	18 85
1893	217,294	14,072,961	64 8	3,729,335	17 16	95,865	1,049,524	10.95	2,099,048	21 90
1892	181,463	11,229,498	61.9	2,953,358	16 28	91,403	948,907	10 38	1,897,814	20 76
1892-1900	*290,760	20,815,829	71.6	4,856,508	16 70	*153,131	1,712,868	11.19	3,425,736	22 37

* The combined average area for corn for the nineteen years 1882-1900, is 313,358 acres, the average value of the produce for the same period being $5,872,965.

POTATOES AND CARROTS.

TABLE XIV. Showing by County Municipalities of Ontario, the area, produce and market value of the crops of Potatoes and Carrots for the year 1900, together with the totals for the Province for the past ten years and the average for the nineteen years, 1882-1900; also the averages per acre.

Counties and Districts.	Potatoes.					Carrots.				
	Acres.	Bushels.	Yield per acre.	Market value.	Market value per acre.	Acres.	Bushels.	Yield per acre.	Market value.	Market value per acre.
				$	$ c.				$	$ c.
Algoma	1,058	137,540	130.	35,898	33 93	70	16,310	233.	2,039	29 13
Brant	2,394	284,886	119.	74,355	31 06	181	76,925	425.	9,616	53 13
Bruce	4,299	588,963	137.	153,719	35 76	344	129,354	376.	16,169	47 00
Carleton	5,498	830,198	151.	216,682	39 41	324	124,416	384.	15,552	48 00
Dufferin	3,721	599,081	161.	156,360	42 02	124	52,080	420.	6,510	52 50
Dundas	2,211	307,329	139.	80,213	36 28	189	53,109	281.	6,639	35 13
Durham	3,284	397,364	121.	103,712	31 58	293	100,499	343.	12,562	42 88
Elgin	3,095	424,015	137.	110,668	35 76	187	77,231	413.	9,654	51 63
Essex	3,951	497,826	126.	129,933	32 89	195	55,185	283.	6,898	35 38
Frontenac	4,368	524,160	120.	136,806	31 32	208	74,048	356.	9,256	44 50
Glengarry	2,659	292,490	110.	76,340	28 71	120	48,000	400.	6,000	50 00
Grenville	3,006	505,008	168.	131,807	43 85	170	61,880	364.	7,735	45 50
Grey	6,271	840,314	134.	219,322	34 97	448	132,608	296.	16,576	37 00
Haldimand	1,532	179,244	117.	46,783	30 54	88	23,496	267.	2,937	33 38
Haliburton	548	80,008	146.	20,882	38 11	56	17,640	315.	2,205	39 38
Halton	1,662	201,102	121.	52,488	31 58	83	33,200	400.	4,150	50 00
Hastings	5,457	654,840	120.	173,913	31 32	345	91,080	264.	11,385	33 00
Huron	4,596	643,440	140.	167,938	36 54	313	104,229	333.	13,029	41 63
Kent	3,704	459,296	124.	119,876	32 36	188	49,068	261.	6,133	32 63
Lambton	3,840	510,720	133.	133,298	34 71	249	98,853	397.	12,357	49 63
Lanark	3,183	528,378	166.	137,907	43 33	231	69,762	302.	8,720	37 75
Leeds	3,336	447,024	134.	116,673	34 97	247	72,865	295.	9,108	36 88
Lennox & Adding.	4,013	409,326	102.	106,834	26 62	147	22,932	156.	2,867	19 50
Lincoln	2,068	210,936	102	55,054	26 62	163	65,526	402.	8,191	50 25
Manitoulin	546	87,360	160.	22,801	41 76	45	16,785	373.	2,098	46 63
Middlesex	5,891	789,394	134	206,032	34 97	509	183,240	360.	22,905	45 00
Muskoka	1,089	144,837	133.	37,802	34 71	98	24,598	251.	3,075	31 38
Nipissing	721	97,335	135.	25,405	35 24	18	3,600	200.	450	25 00
Norfolk	3,256	416,768	128.	108,777	33 41	321	102,720	320.	12,840	40 00
Northumberland	5,206	588,278	113.	153,541	29 49	399	122,892	308.	15,361	38 50
Ontario	5,063	632,875	125.	165,180	32 63	293	90,537	309.	11,317	38 63
Oxford	3,147	431,139	137.	112,527	35 76	143	62,348	436.	7,793	54 50
Parry Sound	1,214	173,602	143.	45,310	37 32	85	29,155	343.	3,644	42 87
Peel	4,097	566,901	133.	147,961	36 11	215	56,975	265.	7,122	33 13
Perth	3,327	515,685	155.	134,594	40 46	180	68,400	380.	8,550	47 50
Peterborough	2,888	384,104	133.	100,251	34 71	349	138,204	396.	17,276	49 50
Prescott	2,388	308,052	129.	80,402	33 67	153	48,501	317.	6,063	39 63
Prince Edward	2,111	213,211	101.	55,648	26 36	118	29,028	246.	3,628	30 75
Renfrew	3,841	483,966	126.	126,315	32 89	203	67,193	331.	8,399	41 38
Russell	1,315	132,815	101.	34,665	26 36	195	70,200	360.	8,775	45 00
Simcoe	8,405	1,210,320	144.	315,893	37 58	545	188,570	346.	23,571	43 25
Stormont	2,255	223,245	99.	58,267	25 84	180	57,600	320.	7,200	40 00
Victoria	3,253	510,721	157.	133,298	40 98	136	51,408	378.	6,426	47 25
Waterloo	3,314	437,448	132.	114,174	34 45	250	89,000	356.	11,125	44 50
Welland	2,582	296,930	115.	77,499	30 02	101	27,371	271.	3,421	33 88
Wellington	5,891	783,503	133.	204,494	34 71	98	29,694	303.	3,712	37 88
Wentworth	3,778	408,024	108.	106,494	28 18	156	63,492	407.	7,936	50 88
York	8,422	1,086,438	129.	283,560	33 67	567	197,316	348.	24,665	43 50
The Province										
1900	163,754	21,476,439	131.	5,605,351	34 23	10,320	3,469,123	336.	433,640	42 02
1899	168,148	19,933,366	119.	6,538,144	38 88	11,891	3,674,035	309.	459,254	38 62
1898	169,946	14,358,625	84.	6,332,154	37 26	12,418	4,313,861	347.	539,233	43 42
1897	169,333	16,100,797	95.	6,424,218	37 94	12,025	4,433,628	369.	554,204	46 09
1896	178,965	21,305,477	119.	5,582,035	31 19	12,333	4,618,441	374.	577,305	46 81
1895	184,647	29,390,884	159.	5,936,959	32 15	13,002	4,581,373	352.	572,672	44 04
1894	167,253	17,163,130	103.	6,075,748	36 33	11,186	3,716,140	332.	464,518	41 53
1893	142,601	12,911,212	91.	5,099,929	35 76	9,288	2,971,450	320.	371,431	39 99
1892	145,703	12,289,817	84.	6,194,068	42 51	9,941	3,827,361	385.	478,420	48 13
1891	160,218	24,055,886	150.	7,842,219	48 95	9,858	3,814,016	387	476,752	48 36
1882-1900	160,255	18,596,662	116.	7,292,119	45 50	10,876	3,799,941	349.	474,993	43 68

MANGEL-WURZELS AND TURNIPS.

TABLE XV. Showing by County Municipalities of Ontario, the area, produce and market value of the crops of Mangel-Wurzels and Turnips for the year 1900, together with the totals for the Province for the past ten years and the average for the nineteen years, 1882-1900; also the averages per acre.

Counties and Districts.	Mangel-Wurzels.					Turnips.				
	Acres.	Bushels.	Yield per acre	Market value.	Market value per acre.	Acres.	Bushels.	Yield per acre.	Market value	Market value per acre.
				$	$ c.				$	$ c.
Algoma	54	19,818	367.	1,585	29 36	659	199,018	302.	19,902	30 20
Brant	1,484	620,312	418.	49,625	33 44	4,014	1,657,782	413.	165,778	41 30
Bruce	2,032	910,336	448.	72,827	35 84	9,134	3,069,024	336.	306,902	33 60
Carleton	1,027	458,042	446.	36,643	35 68	1,992	896,400	450.	89,640	45 00
Dufferin	501	196,893	393.	15,752	31 44	5,232	2,160,816	413.	216,082	41 30
Dundas	272	118,592	436.	9,487	34 88	294	96,726	329.	9,673	32 90
Durham	1,522	538,788	354.	43 103	28 32	6,441	1,861,449	289.	186,145	28 90
Elgin	1,009	515,599	511.	41,248	40 88	531	209,214	394.	20,921	39 40
Essex	590	242.490	411.	19,399	32 88	194	63,050	325.	6,305	32 50
Frontenac	353	137,670	390.	11,014	31 20	848	318,000	375.	31,800	37 50
Glengarry	267	130,296	488.	10,423	39 04	411	164,400	400.	16,440	40 00
Grenville	292	112,712	386.	9,017	30 88	218	89,816	412.	8,982	41 20
Grey	1,822	728,800	400.	58,304	32 00	12,908	4,724,328	366.	472,433	36 60
Haldimand	430	187,480	436.	14,998	34 88	256	61,184	239.	6,118	23 90
Haliburton	41	8,200	200.	656	16 00	246	79,950	325.	7,995	32 50
Halton	1,296	483,408	373.	38,673	29 84	2,008	773,080	385.	77,308	38 50
Hastings	852	301,608	354.	24,129	28 32	2,497	913.902	366.	91,390	36 60
Huron	4,395	2,070,045	471.	165,604	37 68	9,999	3,419,658	342.	341,966	34 20
Kent	916	315,104	344.	25,208	27 52	208	50,960	245.	5,096	24 50
Lambton	1,704	857,112	503.	68,569	40 24	321	115.239	359.	11,524	35 90
Lanark	496	233,120	470.	18,649	37 60	1,374	583.950	425.	58,395	42 50
Leeds	698	219,870	315.	17,590	25 20	599	236,605	395.	23,661	39 50
Lennox & Add.	242	51,304	212.	4,104	16 96	288	56,160	195.	5,616	19 50
Lincoln	423	204,309	483.	16,345	38 64	407	150,183	369.	15,018	36 90
Manitoulin	58	13,050	225.	1,044	18 00	302	117,478	389.	11,748	38 90
Middlesex	3,077	1,455,421	473.	116,433	37 84	2,790	1,196.910	429.	119,691	42 90
Muskoka	66	19,272	292.	1,542	23 36	664	202,520	305.	20,252	30 50
Nipissing	16	3,200	200.	256	16 00	219	43,800	200.	4,380	20 00
Norfolk	816	377,808	463.	30,225	37 04	1,429	524,443	367.	52,444	36 70
Northumberland	1,099	467,075	425.	37,366	34 00	5,654	1,696,200	300.	169.620	30 00
Ontario	2,077	1,065,501	513.	85,240	41 04	12,684	4,236,456	334.	423,646	33 40
Oxford	3,149	1,700,460	540.	136,037	43 20	7,254	3,394,872	468.	339,487	46 80
Parry Sound	40	14,120	353.	1,129	28 24	1,003	403,206	402.	40,321	40 20
Peel	876	394,200	450.	31,536	36 00	2,342	756,466	323.	75,647	32 30
Perth	4,114	2,168,078	527.	173,446	42 16	6,273	2,653,479	423.	265,348	42 30
Peterborough	738	352,764	478.	28,221	38 24	2,710	1,119,230	413.	111,923	41 30
Prescott	196	68,600	350.	5,488	28 00	276	90,528	328.	9,053	32 80
Prince Edward	288	84,384	293.	6,751	23 44	163	61,614	378.	6,161	37 80
Renfrew	637	246,519	387.	19,722	30 96	1,036	384,356	371.	38,436	37 10
Russell	330	165,000	500.	13,200	40 00	955	374,360	392.	37,436	39 20
Simcoe	1,870	914,430	489.	73,154	39 12	9,968	3,827,712	384.	382,771	38 40
Stormont	232	116 000	500.	9,280	40 00	172	43,860	255.	4,386	25 50
Victoria	1,512	586,656	388.	46,933	31 04	5,955	2,870,310	482.	287,031	48 20
Waterloo	1,531	681,295	445.	54,504	35 60	5,834	2,152,746	369.	215,274	36 90
Welland	352	116,160	330.	9,293	26 40	237	74.181	313.	7,418	31 30
Wellington	3,015	1 326,600	440.	106,128	35 20	15,772	6,797,732	431.	679,773	43 10
Wentworth	1,944	989,496	509.	79,160	40 72	3,385	1,272,760	376.	127,276	37 60
York	3,792	1,740,528	459.	139,242	36 72	8,427	3,684,282	366.	308,428	36 60
The Province:										
1900	54,543	24,728,525	453.	1,978,282	36 27	156,583	59,330,395	379.	5,933,040	37 90
1899	53,401	20,893,387	391.	1,671,871	31 31	153,440	58,078.390	379.	5,807,839	37 85
1898	47,923	21,957,564	458.	1,756,605	36 65	151,601	64,727,882	427.	6,472,788	42 70
1897	41,175	18,103,387	440.	1,448,271	35 17	149,336	68,297,148	457.	8,829,715	45 73
1896	36,101	16,849,401	467.	1,347,952	37 34	148,234	69,814,841	471.	6,981,484	47 10
1895	34,383	15.961.502	464.	1,276,920	37 14	151,806	63,496,702	418.	6,349 670	41 83
1894	27,670	11,532,127	417.	922,570	33 34	147,657	61,694,487	418.	6,169,449	41 78
1893	21,519	8,582,568	399.	686,605	31 91	136,604	56,975,355	417.	5,697,535	41 71
1892	22,026	10,350,474	470.	828,038	37 59	129,627	63,541,641	490.	6,354,164	49 02
1891	22,961	11,779,448	513.	942,356	41 04	126,075	68,853,452	546.	6,885,345	54 61
1882-1900	28,116	12,333,9 2	439.	986,715	35 09	124,964	52,408,929	419.	5,240,893	41.94

HAY AND CLOVER—ALL FIELD CROPS.

TABLE XVI. Showing by County Municipalities of Ontario, the area, produce and market value of the crop of Hay and Clover for the year 1900, together with the totals for the Province for the past ten years and the averages for the nineteen years 1882-1900; also the averages per acre. It also shows the aggregate area and market value of all the field crops enumerated in Tables ix-xvi.

Counties and Districts.	Hay and Clover.					All Field Crops.		
	Acres.	Tons.	Yield per acre.	Market value.	Market value per acre.	Acres.	Market value.	Market value per acre.
				$	$ c.		$	$ c.
Algoma	15,688	19,610	1.25	166,293	10 60	33,400	406,408	12 17
Brant	29,068	34,010	1.17	288,405	9 92	126,131	1,720,180	13 64
Bruce	103,765	129,706	1 25	1,099,906	10 60	338,471	4,199,505	12 41
Carleton	68,460	84,206	1.23	714,067	10 43	201,756	2,521,140	12 50
Dufferin	38,117	44,597	1.17	378,183	9 92	171,512	2,174,781	12 68
Dundas	36,172	44,492	1.23	377,292	10 43	96,020	1,235,918	12 87
Durham	43,788	48,987	1.12	415,410	9 50	205,909	2,493,881	12 11
Elgin	58,671	88 006	1 50	746,291	12 72	207,462	3,344.066	16 12
Essex	41 191	64,670	1.57	548,402	13 31	210,916	3,529,080	16 73
Frontenac	66,104	61,477	.93	521,324	7 89	150,818	1,492,577	9 90
Glengarry	45,210	61,938	1.37	525,234	11 62	113,566	1,413,915	12 45
Grenville	38,482	46,563	1.21	394,854	10 26	99,259	1,243,145	12 52
Grey	129,961	128,661	99	1,091,045	8 40	413,259	4,555,934	11 02
Haldimand	53,505	50,830	.95	431,039	8 06	162,685	1,760,890	10 83
Haliburton	12,617	14 257	1 13	120,899	9 58	23,711	265,941	11 22
Halton	29,670	27,890	.94	236,507	7 96	114,400	1,420,777	12 42
Hastings	82,075	114,084	1.39	967,433	11 79	251,386	3,012,372	11 98
Huron	109,613	143,593	1.31	1,217,669	11 11	391,597	5,280,948	13 49
Kent	61,461	102,640	1.67	870,387	14 16	301,467	4,934.579	16 37
Lambton	68,082	111,654	1.64	946,826	13 91	266,528	3,865,265	14 50
Lanark	60,937	83,484	1.37	707 944	11 62	158,960	2,056,863	12 94
Leeds	65,301	82,279	1 26	697,726	10 68	155,000	1,849,993	11 94
Lennox and Addington	60,921	47,518	.78	402,953	6 61	166,598	1,474.290	8 85
Lincoln	39,198	33,710	.86	285,861	7 29	108,629	1,206 272	11 10
Manitoulin	14,593	14.301	.98	121,273	8 31	30,093	336,622	11 19
Middlesex	95,953	162.161	1.69	1,375,125	14 33	346,319	5,273,198	15 23
Muskoka	24,492	28,411	1.16	240,925	9 84	43,327	459,464	10 60
Nipissing	10,589	13,660	1.29	115,837	10 94	18,555	220,970	11 91
Norfolk	40,857	46,577	1.14	394,973	9 67	175,053	2,304,249	13 16
Northumberland	51,427	64,284	1.25	545,128	10 60	224,909	2,631,383	11 70
Ontario	60,578	68,453	1.13	580,481	9 58	263,652	3.467,714	13 15
Oxford	63,041	97,714	1.55	828,615	13 14	245,594	3,949,161	16 08
Parry Sound	24,416	29,543	1.21	250,525	10 26	46 092	526,153	11 42
Peel	32,492	32,492	1.00	275,532	8 48	175,918	2,219,984	12 62
Perth	75,648	109 690	1.45	930,171	12 30	290,995	4,347,468	14 93
Peterborough	39,028	57,761	1.48	489,813	12 55	150,415	1,966,588	13 07
Prescott	46,184	57,730	1.25	489,550	10 60	106,787	1,161,096	10 87
Prince Edward	30,183	29,579	.98	250,830	8 31	125 570	1.171,033	9 33
Renfrew	72,332	88,968	1.23	754,449	10 43	193,282	2,266,599	11 73
Russell	26,143	38,430	1.47	325,886	12 47	67,922	882,280	12 99
Simcoe	87,998	107,358	1.22	910,396	10 35	405,360	5,458,379	13 47
Stormont	34,203	42,754	1.25	362,554	10 60	83,889	999,837	11 92
Victoria	48,563	60,704	1.25	514,770	10 60	198,278	2,610,182	13 16
Waterloo	39,973	44,370	1.11	376,258	9 41	191,057	2,599,394	13 61
Welland	48,422	32,927	.68	279,221	5 77	123,649	1,254,191	10 14
Wellington	87,251	107,319	1.23	910,065	10 43	337,348	4,640 820	13 76
Wentworth	41,901	44,415	1.06	376,639	8 99	154,467	2,039,232	13 22
York	72,292	84,582	1.17	717,256	9 92	327,032	4,514,044	13 80
The Province:								
1900	2,526,566	3,133,045	1.24	26,568,222	10 52	8,794,953	114,758,761	13 05
1899	2,505,422	3,498,705	1.40	27,010,003	10 78	8,753,926	105,771,321	12 08
1898	2,453,503	4,399,063	1 79	27,362,172	11 15	8,835,272	110.528,947	12 51
1897	2,341,488	3,811,518	1.63	27,366,699	11 69	8,701,705	106,952,471	12 29
1896	2,426,711	2,260,240	.93	21,879,123	9 02	8,511,444	88,900,135	10 44
1895	2,537,674	1,849.914	.73	22,753,942	8 97	8,321,173	99,655,895	11 98
1894	2,576,943	3,575,200	1.39	27.028,512	10 49	8,227,153	94,055,392	11 43
1893	2,766,894	4,963 557	1.79	37,921,575	13 71	8,054 612	101,886,557	12 65
1892	2,515,367	4,384,838	1.74	35,955,672	14 29	8,080,206	110,562,493	13 68
1891	2,549,975	2,392,798	.94	28,498,224	11 18	7,834,213	130,866,023	16 70
1882-1900	2,397,659	3,310,706	1.38	30,247,914	12 62	7,971,395	110,264,687	13 83

RATIOS OF AREAS UNDER CROP.

TABLE XVII. Showing by County Municipalities of Ontario the number of acres under the various crops in 1900 per 1,000 acres of cleared land; together with the average for the Province for the past ten years and the average of the nineteen years 1882-1900.

Counties and districts.	Fall wheat.	Spring wheat.	Barley.	Oats.	Rye.	Peas.	Corn.	Buckwheat.	Beans.	Potatoes.	Mangel wurzels.	Carrots.	Turnips.	Hay and clover.	Total.
Algoma	8.7	64.9	28.1	224.0	3.2	82.4	3.9	3.6	.4	27.9	1.4	2.0	17.4	414 5	882 4
Brant	194 1	1.7	63.1	123.7	12.7	37.7	60.1	6.3	1.9	13.4	8.4	1.0	22.5	163.6	710.2
Bruce	78.0	8.2	31.8	182.8	2.3	100 6	8.4	2.6	.1	8.1	3.8	.6	17.3	196.6	641.2
Carleton	.3	48.8	29 2	255.6	5.4	17.1	33.3	13.7	.5	17.9	3.3	1.1	6.5	222.2	654.9
Dufferin	47.6	53.0	54.4	272.7	18.1	63.5	2.6	3.1	....	15.5	2.1	.5	21.8	158.5	713.4
Dundas	3.0	16.0	19.2	226.8	6.2	8.3	75.4	16 2	.9	14.5	1.8	1.2	1.9	236.5	627.9
Durham	38.1	68.6	93.1	159.1	31.9	90.5	19.7	13.6	1.2	11.2	5.2	1.0	22.1	149 8	705.1
Elgin	129.1	.1	30 2	138.1	5.2	15.2	95.1	9.5	11.5	9.8	3.0	.6	1.6	176.9	625.4
Essex	121.6	1.1	32.1	173.0	3.3	8.1	236 0	2.3	3.6	13 9	2.1	.7	.7	145.3	743.8
Frontenac	2.5	34.3	24.6	163.5	19 0	23.0	28.9	8.9	1.2	16.9	1.4	.8	3.3	256.2	584.5
Glengarry	.3	33.8	24.3	222.6	1.7	19.7	33.7	7.6	.6	14.1	1.4	.6	2.2	239.9	602.5
Grenville	1.0	12.5	18.0	202 9	8.9	6.8	61.1	23.6	.5	17.7	1.7	1.0	1.3	226.1	583.1
Grey	47.2	15.2	32 2	214 5	3.0	81.0	6.9	4.2	.4	9.7	2.8	.7	20.0	200.9	638.7
Haldimand	184.9	6.9	34 6	135.8	10 1	61.7	25.1	3.1	.4	6 6	1.9	.4	1.1	231.7	704.3
Haliburton	10.3	33 3	8.1	159 6	11.3	35.7	8.2	14.2	.3	15.1	1.1	1.5	6 8	347.5	653.0
Halton	171.7	24.9	45.1	137 2	4.2	60.7	27.0	1.3	.3	9.9	7.7	.5	11 9	175.9	678.3
Hastings	20.1	42.8	52.6	151.6	31.4	48.6	37.9	14.0	1.0	13.6	2.1	.9	6.2	205.0	627.8
Huron	103.0	4.3	42 8	193.1	1 9	61.8	13 5	1 1	.2	7.4	7.1	.5	16.0	176.0	628.7
Kent	181.2	3.8	42.3	118.8	1.7	8.7	133.8	2.1	69.6	8.9	2.2	.4	.5	146.9	720.9
Lambton	169.8	3 1	47.4	181.6	.8	18.7	59.7	1.2	1.5	9.7	4.3	.6	.8	171.3	670.5
Lanark	7.6	46.0	11.3	153.2	5.0	32.2	27.9	11.9	.5	10.1	1.6	.7	4.4	194.1	506.5
Leeds	9 5	20 6	16.8	171.6	7.5	10.5	50.6	11.7	1.0	11.7	2 4	.8	2.1	230.6	547.4
Lennox & Addington	7.8	37.2	68.5	138.4	19 8	41.7	26 8	19.2	1.1	14.3	.9	.6	1.0	217.2	594.5
Lincoln	144.3	5.7	12.2	138.5	9 4	41.1	59.1	1.6	1.9	12.9	2.6	1.0	2.6	244.4	677.3
Manitoulin	30.7	55.1	19.4	131.1	4.9	118.7	8 7	2.8	1.5	14.0	1.5	1.1	7.8	374.0	771.3
Middlesex	141.2	2.0	31 4	152.8	1.4	24.6	46.1	1 7	.9	10.0	5.2	.9	4.7	162.0	584.9
Muskoka	2 7	17 3	13.7	187 8	6.3	46.3	7.8	3.6	.3	18.2	1.1	1.7	11.2	413.5	731.5
Nipissing	.8	42.6	12.6	160.1	2.6	59.1	2.2	1.8	.8	29.1	.7	.7	8.9	427.9	749.9
Norfolk	169.1	1.0	21.2	124 3	30.2	24 1	97.1	24.9	2.3	12.5	3.1	1.3	5.5	157.3	673.9
Northumberland	44.6	82 7	44.4	127.6	47 6	76.2	28 5	23.8	2.1	15.4	3.3	1.2	16.7	152.4	666 5
Ontario	42.8	76 1	75.8	201 1	15.7	60.2	21.6	11.3	.5	14.0	5.7	.8	35.0	167.2	727.8
Oxford	133.0	.7	43 8	185.8	4.6	24.2	52.1	5.8	.4	8.4	8.4	.4	19.3	167.4	652 3
Parry Sound	1.8	27.1	12.9	197.4	6.4	53.1	4 8	2.9	.8	19.3	.6	1.4	15.9	387.9	732 3
Peel	120.1	48.9	101.1	173.5	16.9	60.2	14.4	2.4	.2	16.2	3.5	.9	9.3	128.6	696.2
Perth	108.9	3 7	52.2	230.7	.5	61.9	18.5	.5	.5	7.9	9.8	.4	14.9	179.2	689.6
Peterborough	43.7	59.3	30.1	166.4	22.7	76.1	11 8	9.0	.4	11.6	2 9	1.4	10.9	156 3	602 6
Prescott	.1	38.6	17.3	233.0	.8	21.4	27.7	7.9	1.5	14.4	1.2	.9	1.7	279.3	645.8
Prince Edward	29.1	61.2	64.9	88.7	55 2	70.2	63.0	32.1	4.1	10.7	1.5	.6	.8	152.5	634.6
Renfrew	.6	97.9	5.9	157 3	13.7	72.2	14.5	4.9	1.1	12.3	2.0	.7	3.3	231.1	617.5
Russell	.6	30.3	32 9	267.2	1 7	18.0	36.4	11.3	.9	13.5	3.4	2.0	9.8	267 9	695.9
Simcoe	119 1	35.0	59.6	172.5	11.8	93.6	10.6	10.2	.2	14.5	3 2	.9	17.2	152.0	700.4
Stormont	.5	20.4	25 1	197.7	.9	9.7	47.3	14.3	.5	15.2	1.6	1.2	1.1	230.9	566.4
Victoria	25.3	86 1	59.7	223.7	18.7	71.5	12.0	12.6	1.0	12.0	5.5	.5	21.9	178.6	729.1
Waterloo	173.0	1.8	70.5	231 1	5.7	56.5	24.4	2.3	.2	13.4	6.2	1.1	23.5	161.3	771.0
Welland	134.3	2.4	12.1	136 0	9.4	30.4	59.3	10 7	5.1	14.3	2.6	.6	1.3	269.0	686.9
Wellington	45.7	14.0	63 4	264 0	2.7	73 4	9.0	2.5	.1	12.4	6.3	.3	33.2	183.8	710.8
Wentworth	163.3	6.5	41.4	162.2	8.9	51.6	42.7	5.2	.4	17.7	9.1	.7	15.8	195 6	721.1
York	95.8	72 7	88.8	199.6	11.5	50.0	21.2	3 2	.6	19.5	8 7	1.3	19 7	167.5	758.1
The Province:															
1900	80.4	28.3	43.4	180.4	10 7	49.8	38.4	7.7	3.3	12.3	4.1	.8	11.8	190.0	661.4
1899	80.1	30.4	37.4	180.3	10.5	56.7	38.6	10 1	3.1	12.8	4.0	.9	11.7	191.1	667.7
1898	80 7	30.0	33.8	182.9	12 7	66.6	40.1	11.5	3.4	13.1	3.7	1.0	11.7	188.8	680 0
1897	73 9	25.2	35.1	189.3	14.6	69.8	42.3	11.8	3.9	13.2	3.2	.9	11.6	182.2	677.0
1896	69 2	20.2	36.5	191 4	11.7	65.5	39.2	11.5	5.4	14.1	2 8	.9	11.7	191.5	671 6
1895	59.8	18 0	38.5	191.0	9.7	64 4	36 4	10.9	5.8	14 9	2 8	1.0	12.2	201.2	669.6
1894	63.4	18.7	39.6	190.6	7.3	63 9	30.8	11 8	4.8	13.6	2.3	.9	12.0	209.6	669.3
1893	75.5	29.4	38 6	159 9	5.6	61 0	25.9	11.0	4 0	11.8	1.8	.8	11.3	228.4	665 0
1892	80.6	54.3	41.7	155.3	6.1	64.6	22.8	10.4	2.8	12.2	1.8	.8	10.8	209.8	674 0
1891	72.0	43.3	46.9	156.0	5.7	63.8	20.4	9.1	3.5	13 6	1.9	8	10.7	216.1	663.8
1882-1900	77.7	39.4	52.5	165.5	9.7	61.4	26.6	8.5	3.2	13.6	2.4	.8	10.6	203.0	674.9

PASTURE—ORCHARD—VINEYARD—APPLES.

TABLE XVIII.—Showing by County Municipalities of Ontario the area in pasture (cleared land) orchard and garden, and vineyard, for the year 1900, together with the totals for the Province for the past ten years; also the number of apple trees and the yield.

Counties and Districts.	Pasture.	Orchard and Garden.	Vineyard.	Apple trees.			
				15 years and over.			No. of trees under 15 years.
				No. of trees.	Busbels.	Bush. per tree.	
	acres.	acres.	acres.				
Algoma	5,903	747	9	1,183	3,573	3.02	16,925
Brant	24,675	6,472	76	116,653	725,582	6.22	39,487
Bruce	118,767	9,802	67	234,111	805,342	3.44	91,175
Carleton	79,904	3,573	40	41,694	206,385	4.95	68,856
Dufferin	37,796	3,152	65	51,423	213,405	4.15	45,322
Dundas	40,980	2,819	38	73,875	361,988	4.90	40,618
Durham	48,927	7,465	38	188,960	829,534	4.39	117,833
Elgin	70,431	10,426	126	194,784	1,308,948	6.72	94,886
Essex	32,615	11,315	1,322	169,262	976,642	5.77	83,016
Frontenac	73,501	4,313	13	87,750	640,575	7.30	66,239
Glengarry	53,082	2,193	36	43,449	277,205	6.38	34,938
Grenville	53,228	2,943	29	59,005	246,641	4.18	48,602
Grey	135,398	14,321	141	325,249	1,327,016	4.08	182,048
Haldimand	35,258	6,740	112	150,285	927,258	6.17	35,475
Haliburton	8,111	440	15	2,592	12,027	4.64	9,935
Halton	28,617	9,912	309	202,875	1,255,796	6.19	59,435
Hastings	96,700	10,805	78	186,346	1,164,663	6.25	173,071
Huron	149,741	14,329	214	351,117	1,702,917	4.85	139,113
Kent	53,141	17,066	429	305,046	2,361,056	7 74	149,883
Lambton	83,262	12,667	163	254,734	1,179,418	4.63	134,492
Lanark	110,304	3,026	26	52,117	319,998	6.14	47,243
Leeds	90,500	4,378	16	78,132	443,790	5.68	56,088
Lennox & Addington	63,818	5,861	18	85,830	466,057	5.43	86,175
Lincoln	21,722	16,240	3,267	218,924	1,606,902	7.34	27,314
Manitoulin	6,110	590	11	4,181	5,853	1.40	14,960
Middlesex	169,778	16,680	274	288,591	1,904,701	6 60	145,938
Muskoka	11,393	984	12	3,722	12,841	3.45	20,073
Nipissing	4,461	220	15	501	1,503	3.00	2,850
Norfolk	36,357	10,206	141	177,046	1,384,500	7.82	37,285
Northumberland	64,465	12,554	97	321,732	1,843,524	5.73	240,360
Ontario	54,994	8,907	69	198,223	860 288	4.34	118,048
Oxford	82,775	11,089	95	212 986	1,546,278	7.26	44,269
Parry Sound	12,091	598	3	1,146	4,194	3.66	9,662
Peel	33,725	6,186	48	121,556	632,091	5.20	43,561
Perth	84,150	7,420	47	153,233	1,057,308	6.90	50,909
Peterborough	59,201	3,868	69	65,740	288,599	4.39	52,371
Prescott	38,789	1,537	30	27,111	151,822	5.60	30,065
Prince Edward	34,707	9,461	64	205,121	1,302,518	6.35	142,074
Renfrew	76,771	2,500	50	21,276	76,806	3.61	41,063
Russell	22,093	776	47	11,049	59,444	5.38	17,356
Simcoe	85,830	11,500	127	201,080	975,238	4.85	189,114
Stormont	42,321	2,158	36	54,380	214,801	3.95	30,071
Victoria	48,349	3,713	42	68,595	332,000	4.84	58,212
Waterloo	27,295	5,806	9	108,134	555,809	5.14	39,144
Welland	26,365	8,651	1,034	186,443	1,236,117	6.63	25,137
Wellington	74,407	7,577	121	161,553	836,845	5.18	58,148
Wentworth	29,990	13,248	1,521	218,707	1,272,875	5.82	56,802
York	51,802	12,177	78	230,546	1,074,344	4.66	115,029
The Province:							
1900	2,694,600	339,411	10,687	6,518,048	36,993,017	5.68	3,430,670
1899	2,710,268	338,073	10,802	6,324,842	19,126,439	3.02	3,445,135
1898	2,708,043	335,420	10,118	6,221,324			3,458,820
1897	2,658,245	326,341	11,100	6,102,399	13,343,720	2.19	3,435,018
1896	2,669,744	*320,122		5.913,906	55,895,755	9.45	3,548,058
1895	2,728,655	*312,787		5,835,915			3,362,401
1894	2,703,241						
1893	1,682,180						
1892	2,562,040						
1891	2,721,281						

* Including vineyard.

HORSES.

TABLE XIX.—Showing by County Municipalities of Ontario the number and value of horses on hand on July 1, 1900, together with the totals for the Province for the past ten years; also the number and value of horses sold during the year ending June 30.

Counties and Districts.	On hand July 1.					Sold in year.		
	Working horses.	Breeding mares.	Other horses.	Totals.		No.	Value.	Value per head.
				No.	Value.			
					$		$	$
Algoma	1,482	331	393	2,206	198,737	230	19,780	86
Brant	6,269	941	1,315	8,525	588,862	413	28,910	70
Bruce	13,537	3,914	5,341	22,792	1,826,329	2,109	172,938	82
Carleton	9,321	1,912	2,035	13,268	1,119,804	1,212	105,444	87
Dufferin	6,431	1,826	2,060	10,317	759,930	831	67,311	81
Dundas	5,350	993	1,248	7,591	531,364	651	44,919	69
Durham	9,199	1,957	3,002	14,158	1,075,160	798	63,840	80
Elgin	10,913	1,942	3,156	16,011	1,131,819	1,208	93,016	77
Essex	10,670	2,084	2,921	15,675	1,135,740	1,002	72,144	72
Frontenac	6,963	1,167	1,324	9,454	641,466	666	42,624	64
Glengarry	5,902	1,807	1,969	9,678	661,888	716	54,416	76
Grenville	4,833	857	914	6,604	447,212	388	24,832	64
Grey	17,365	4,224	5,376	26,965	2,040,400	2,232	160,704	72
Haldimand	6,944	1,631	2,349	10,924	772,842	724	55,024	76
Haliburton	1,064	176	307	1,547	106,598	99	6,039	61
Halton	6,018	893	1,258	8,169	611,659	366	26,718	73
Hastings	12,354	1,915	2,924	17,193	1,163,866	1,187	74,781	63
Huron	16,724	4,989	6,919	28,632	2,433,075	3,370	296,560	88
Kent	14,762	3,212	4,822	22,796	1,766,502	1,398	104,850	75
Lambton	11,481	3,008	4,189	18,678	1,434,950	1,740	133,980	77
Lanark	6,940	1,400	1,901	10,241	783,130	973	71,029	73
Leeds	7,399	1,335	1,693	10,427	738,823	723	52,779	73
Lennox & Add	7,726	1,250	2,090	11,066	739,246	809	51,776	64
Lincoln	6,285	886	1,241	8,412	600,326	553	40,922	74
Manitoulin	1,241	220	370	1,831	137,816	214	14,552	68
Middlesex	17,758	4,631	6,882	29,271	2,342,486	2,903	246,755	85
Muskoka	2,215	415	465	3,095	240,324	239	17,208	72
Nipissing	820	188	193	1,201	91,262	101	7,575	75
Norfolk	9,339	1,648	2,464	13,451	919,544	894	66,156	74
Northumberland	10,551	1,754	2,952	15,257	1,028,846	961	67,270	70
Ontario	11,077	3,020	3,829	17,926	1,474,625	1,428	134,232	94
Oxford	12,184	2,530	3,529	18,243	1,362,260	1,410	121,260	86
Parry Sound	1,993	439	516	2,948	245,617	256	16,640	65
Peel	7,573	1,938	2,489	12,000	981,652	862	80,166	93
Perth	12,358	3,882	4,604	20,844	1,732,558	1,861	158,185	85
Peterborough	6,942	1,307	1,803	10,052	744,860	695	52,125	75
Prescott	4,295	1,434	1,589	7,318	561,629	645	55,470	86
Prince Edward	6,319	1,058	1,729	9,106	581,228	602	39,732	66
Renfrew	8,620	1,917	2,007	12,544	998,886	1,075	75,250	70
Russell	3,151	993	1,005	5,149	398,734	315	27,405	87
Simcoe	18,599	4,391	6,363	29,353	2,350,740	2,201	173,879	79
Stormont	4,253	1,083	1,307	6,643	438,820	601	36,661	61
Victoria	8,083	2,059	2,661	12,803	987,167	714	55,692	78
Waterloo	8,987	1,520	1,751	12,258	905,974	790	66,360	84
Welland	6,418	899	1,434	8,751	616,060	655	48,470	74
Wellington	14,160	3,408	4,119	21,687	1,647,387	1,864	149,120	80
Wentworth	8,515	1,455	2,120	12,090	929,816	635	49,530	78
York	14,500	3,297	4,362	22,159	1,888,980	1,607	149,451	93
The Province:								
1900	405,883	90,136	121,290	617,309	46,916,999	47,926	3,774,480	79
1899	418,490	86,614	110,420	615,524	42,713,557	45,367	3,204,006	71
1898	430,504	77,886	102,851	611,241	38,659,896	44,404	2,884,107	65
1897	436,921	69,940	106,809	613,670	36,111,805	43,511	2,700,479	62
1896	434,384	66,883	123,482	624,749	37,185,693	44,458	2,712,888	61
1895	423,673	72,156	151,867	647,696	40,283,754	40,346	2,616,391	65
1894	395,686	88,962	190,129	674,777	46,245,614	41,916	3,222,500	77
1893	373,615	100,553	211,019	685,187	50,527,472	47,897	4,001,524	84
1892	358,668	109,865	220,281	688,814	55,812,920	46,955	4,280,132	91
1891	328,736	127,188	222,535	678,459	.....	.....	.....	....

CATTLE.

TABLE XX. Showing by County Municipalities of Ontario, the number and value of cattle on hand on July 1, 1900, together with the totals for the Province for the past ten years; also the number and value of cattle sold or slaughtered during the year ending June 30.

Counties and districts.	On hand July 1.					Sold or slaughtered in year.		
	Milch cows.	Store cattle over 2 years.	Young and other cattle.	Total.		No.	Value.	Value per head.
				No.	Value.			
					$		$	$ c.
Algoma	3,188	1,376	4,990	9,554	208,475	2,019	53,221	26 36
Brant	11,601	3,003	13,074	27,678	639,271	6,384	188,328	29 50
Bruce	30,012	33,334	47,621	110,967	2,822,082	27,005	1,002,966	37 14
Carleton	34,255	11,292	24,959	70,506	1,609,196	13,346	388,235	29 09
Dufferin	12,428	7,034	18,002	37,464	852,987	8,365	289,178	34 57
Dundas	24,333	2,558	13,007	39,898	897,579	4,698	117,168	24 94
Durham	15,871	6,518	19,620	42,009	983,018	9,463	326,190	34 47
Elgin	24,215	10,001	29,223	63,442	1,563,807	16,388	549,162	33 51
Essex	15,417	6,330	19,519	41,266	907,271	10,976	283,730	25 85
Frontenac	24,806	5,190	20,048	50,044	966,111	7,384	172,195	23 32
Glengarry	28,613	3,361	16,843	48,820	1,020,763	7,292	146,715	20 12
Grenville	21,265	2,812	11,136	35,213	779,016	4,714	117,331	24 89
Grey	38,519	22,231	60,277	121,027	2,678,022	28,824	971,369	33 70
Haldimand	12,939	3,363	15,280	31,582	716,962	8,318	223,172	26 83
Haliburton	3,180	1,128	4,969	9,277	158,042	2,494	43,620	17 49
Halton	10,314	4,598	11,333	26,245	659,842	6,305	215,946	34 25
Hastings	43,803	5,791	31,334	80,928	1,673,979	13,423	276,380	20 59
Huron	34,538	31,002	58,435	123,975	3,185,347	32,871	1,251,728	38 08
Kent	20,752	15,357	30,362	66,471	1,635,483	16,524	544,962	32 98
Lambton	22,043	18,586	36,071	76,700	1,816,415	21,834	698,251	31 98
Lanark	24,724	8,735	23,360	56,819	1,221,632	11,343	319,986	28 21
Leeds	34,011	5,490	20,370	59,871	1,292,643	8,029	175,032	21 80
Lennox and Addington	21,643	6,831	19,137	47,614	941,195	7,829	164,566	21 02
Lincoln	9,046	1,946	8,566	19,558	474,375	5,098	147,077	28 85
Manitoulin	2,865	1,390	5,148	9,403	175,014	2,596	57,372	22 10
Middlesex	38,677	30,447	52,707	121,831	3,407,181	39,646	1,565,224	39 48
Muskoka	5,625	1,897	7,756	15,278	290,393	3,401	76,930	22 56
Nipissing	1,905	851	2,666	5,422	98,534	763	16,946	22 21
Norfolk	17,952	3,609	16,881	38,442	793,902	7,784	163,464	21 00
Northumberland	24,674	5,300	24,021	53,995	1,115,818	9,827	240,172	24 44
Ontario	21,198	11,564	28,663	61,425	1,550,443	15,088	569,119	37 72
Oxford	38,952	11,437	33,619	84,008	2,190,468	21,676	793,775	36 62
Parry Sound	5,169	2,138	7,963	15,270	287,561	2,879	64,058	22 25
Peel	13,859	5,179	14,200	33,238	889,346	6,578	242,204	36 82
Perth	34,157	15,376	43,830	93,363	2,284,673	22,405	804,340	35 90
Peterborough	19,213	4,076	19,388	42,677	859,295	9,335	217,319	23 28
Prescott	18,586	3,292	12,466	34,344	727,807	4,672	111,801	23 93
Prince Edward	13,784	1,439	9,853	25,076	495,812	4,033	83,201	20 63
Renfrew	24,430	12,007	28,845	65,282	1,231,682	14,687	343,970	23 42
Russell	12,725	2,529	8,456	23,710	514,523	3,557	76,298	21 45
Simcoe	32,895	15,499	44,853	93,247	2,040,059	23,987	739,999	30 85
Stormont	21,304	2,599	10,491	34,391	743,427	3,138	71,892	22 91
Victoria	16,652	9,368	24,200	50,220	1,059,360	9,596	310,143	32 32
Waterloo	14,965	4,243	17,446	36,654	900,917	16,137	655,646	40 63
Welland	8,547	2,768	11,309	22,624	497,531	5,933	167,904	28 30
Wellington	27,307	16,724	41,346	85,377	2,162,931	25,803	1,108,239	42 95
Wentworth	15,176	3,245	15,499	33,920	853,670	7,962	240,054	30 15
York	23,991	7,812	21,399	53,202	1,446,950	18,484	631,413	34 16
The Province:								
1900	976,124	392,665	1,060,541	2,429,330	56,320,810	560,893	18,017,989	32 12
1899	974,474	356,505	987,376	2,318,355	52,938,500	555,583	17,303,426	31 14
1898	965,021	345,695	905,227	2,215,943	47,286,254	552,485	16,121,559	29 18
1897	910,236	365,406	876,684	2,182,326	42,683,557	503,007	13,350 223	26 54
1896	920,346	370,409	891,203	2,181,958	44,383,638	436,451	12,381,248	28 37
1895	888,228	365,644	896,231	2,150,103	46,708,017	418,131	13,272,127	31 74
1894	834,237	376,809	888,255	2,099,301	47,577,587	441,698	15,219,256	34 46
1893	803,598	378,014	876,270	2,057,882	47,718,025	461,501	16,671,021	36 12
1892	787,836	366,705	874,599	2,029,140	45,548,475	436,352	15,979,135	36 62
1891	773,234	359,318	846,263	1,978,815	.....	.....	.....	.....

SHEEP.

TABLE XXI. Showing by County Municipalities of Ontario the number and value of sheep on hand on July 1, 1900, toge her with the totals for the Province for the past ten years; also the number and value of sheep sold or slaughtered during the year ending June 30.

Counties and districts.	On hand July 1.				Sold or slaughtered in year.		
	Over 1 year.	Under 1 year.	Total. No.	Total. Value.	No.	Value.	Value per head.
				$		$	$ c.
Algoma	5,146	3,881	9,027	38,996	2,759	11,146	4 04
Brant	11,035	9,388	20,423	96,912	8,345	41,975	5 03
Bruce	56,007	52,312	108,319	509,059	37,007	163,141	4 43
Carleton	18,987	17,294	36,281	136,653	15,041	53,095	3 53
Dufferin	21,827	20,135	41,962	183,960	14,033	58,658	4 18
Dundas	6,081	6,377	12,458	52,951	5,027	18,801	3 74
Durham	25,080	21,641	46,721	200,158	15,168	62,189	4 10
Elgin	27,292	25,898	53,190	220,495	21,968	92,266	4 20
Essex	12,406	9,652	22,058	80,551	9,873	35,839	3 63
Frontenac	15,172	14,360	29,532	105,949	11,921	39,339	3 30
Glengarry	11,371	9,551	20,922	82,028	7,915	32,452	4 10
Grenville	7,186	7,682	14,868	58,817	6,310	24,798	3 93
Grey	68,742	62,773	131,515	568,526	43,631	178,014	4 08
Haldimand	14,387	14,250	28,637	133,292	11,737	48,356	4 12
Haliburton	5,249	4,197	9,446	32,811	2,842	9,038	3 18
Halton	11,349	10,188	21,537	105,109	8,670	41,529	4 79
Hastings	26,578	22,570	49,148	177,095	16,123	53,206	3 30
Huron	47,018	44,896	91,914	431,297	34,425	159,044	4 62
Kent	24,489	22,003	46,492	191,509	17,414	74,706	4 29
Lambton	27,084	26,652	53,736	231,475	22,029	99,571	4 52
Lanark	28,113	25,119	53,232	194,364	20,814	75,763	3 64
Leeds	10,788	10,816	21,604	85,314	9,132	36,163	3 96
Lennox and Addington	12,625	11,941	24,566	89,295	9,851	38,813	3 94
Lincoln	9,159	8,397	17,556	74,711	7,113	27,741	3 90
Manitoulin	10,382	8,777	19,159	69,793	5 227	15,524	2 97
Middlesex	32,199	29,078	61,277	304,832	26,458	130,703	4 94
Muskoka	11,701	9,646	21,347	82,763	8,008	26,987	3 37
Nipissing	1,246	1,027	2,273	8,217	730	2,263	3 10
Norfolk	16,159	14,367	30,526	118,796	13,370	51,341	3 84
Northumberland	15,991	14,612	30,603	121,928	12,349	53,842	4 36
Ontario	29,720	24,833	54,553	270,939	18,769	86,713	4 62
Oxford	11,627	10,885	22,512	103,297	9,012	41,635	4 62
Parry Sound	12,317	10,012	22,329	84,723	6,440	21,574	3 35
Peel	11,791	9,848	21,639	107,772	8,086	36,549	4 52
Perth	22,643	22,089	44,732	200,219	18,426	85,681	4 65
Peterborough	15,494	12,793	28,287	115,734	9,829	40,495	4 12
Prescott	9,221	7,973	17,194	67,232	7,619	23,238	3 05
Prince Edward	4,553	4,118	8,671	34,426	5,513	20,233	3 67
Renfrew	38,870	32,305	71,175	256,615	23,163	77,133	3 33
Russell	5,780	5,188	10,968	41,853	5,977	20,322	3 40
Simcoe	55,898	45,548	101,446	418,411	40,424	155,228	3 84
Stormont	4,808	3,531	8,339	32,095	2,978	10,512	3 54
Victoria	29,266	22,922	52,188	233,474	18,869	81,325	4 31
Waterloo	13,571	12,018	25,589	112,528	13,129	61,706	4 70
Welland	10,004	9,544	19,548	77,846	8,439	35,697	4 23
Wellington	46,757	43,579	90,336	437,331	36,263	181,678	5 01
Wentworth	11,762	10,539	22,301	108,082	9,562	39,682	4 15
York	24,666	20,411	45,077	221,263	22,270	96,875	4 35
The Province:							
1900	949,597	847,616	1,797,213	7,711,496	690,058	2,872 609	4 16
1899	930,314	842,290	1,772,604	7,315,729	665,238	2,629,201	3 95
1898	877,872	799,142	1,677,014	6,499,695	664,239	2,460,379	3 70
1897	897,685	792,665	1,690,350	6,003,194	732,872	2,538,171	3 46
1896	995,616	853,732	1,849,348	6,652,202	766,896	2,646,709	3 45
1895	1,095,995	926,740	2,022,735	7,708,442	632,315	2,484,612	3 64
1894	1,086,635	929,170	2,015,805	8,606,671	616,446	2,552,267	4 14
1893	1,032,069	903,869	1,935,938	9,016,118	616,237	2,784,288	4 52
1892	979,962	870,511	1,850,473	8,569,557	575,934	2,640,190	4 58
1891	935,713	758,038	1,693,751	.....	.....	.....	.....

HOGS.

TABLE XXII. Showing by County Municipalities of Ontario the number and value of Hogs on hand July 1, 1900, together with the totals for the Province for the past ten years; also, the number and value of hogs sold or slaughtered during the year ending June 30.

Counties and districts.	On hand July 1.				Sold or slaughtered in year.		
	Over 1 year.	Under 1 year.	Totals.		No.	Value.	Value per head.
			No.	Value.			
				$		$	$ c.
Algoma	1,154	3,972	5,126	29,254	4,419	37,429	8 47
Brant	4,135	25,660	29,795	156,654	33,024	251,652	7 59
Bruce	8,695	50,115	58,810	322,775	66,683	493,445	7 40
Carleton	5,322	27,986	33,308	175,073	29,789	281,506	9 45
Dufferin	4,520	30,236	34,756	171,975	36,060	271,171	7 52
Dundas	4,001	22,035	26,036	142,447	27,598	196,222	7 11
Durham	4,218	26,055	30,273	160,471	40,001	302,408	7 56
Elgin	9,102	61,212	70,314	362,673	79,287	608,131	7 67
Essex	16,722	78,351	95,073	491,384	83,957	654,025	7 79
Frontenac	4,095	13,879	17,974	104,658	19,894	162,335	8 16
Glengarry	4,240	15,250	19,490	114,628	20,275	159,767	7 88
Grenville	3,603	15,256	18,859	115,300	17,129	136,176	7 95
Grey	9,976	61,492	71,468	383,460	80,414	608,734	7 57
Haldimand	3,213	22,377	25,590	131 587	30,219	223,923	7 41
Haliburton	611	1,921	2,532	11,875	2,662	17,942	6 74
Halton	2,727	19,550	22,257	117,767	28,755	205,598	7 15
Hastings	9,195	34,576	43,771	255,222	51,187	391,581	7 65
Huron	8,664	64,261	72,925	411,619	93,826	733,719	7 82
Kent	16,160	99,589	115,749	614,749	107,178	888,506	8 29
Lambton	6,775	44,130	50,905	265,466	64,596	494,159	7 65
Lanark	4,482	18,576	23,058	117,557	20,168	171,428	8 50
Leeds	5,980	23,713	29,693	174,582	30,104	238,424	7 92
Lennox and Addington	3,626	18,142	21,768	135,199	29,459	229,191	7 78
Lincoln	2,869	16,525	19,394	108,843	22,137	163,150	7 37
Manitoulin	1,331	4,126	5,457	27,428	4,697	34,946	7 44
Middlesex	10,768	67,363	78,131	430,755	92,537	691,251	7 47
Muskoka	908	2,932	3,840	23,187	5,362	34,478	6 43
Nipissing	643	1,154	1,797	9,566	1,335	14,685	11 00
Norfolk	5,798	38,717	44,515	219,806	51,144	380,511	7 44
Northumberland	5,112	30,120	35,232	185,976	44,306	322,548	7 28
Ontario	6,525	45,966	52,491	269,740	64,883	478,837	7 38
Oxford	7,797	58,351	66,148	352,735	82,736	646,996	7 82
Parry Sound	1,310	3,690	5,000	30 301	4,949	36,623	7 40
Peel	3,914	24,398	28,312	158,169	35,283	239,572	6 79
Perth	8,256	51,378	59,634	365,237	72,238	575,014	7 96
Peterborough	4,095	19,605	23,700	130,055	28,084	233,097	8 30
Prescott	3,116	9,476	12,592	77,010	9,651	106,644	11 05
Prince Edward	2,951	11,201	14,152	89,351	17,830	118,035	6 62
Renfrew	7,694	18,664	26,358	141,343	19,804	171,503	8 66
Russell	2,729	7,424	10,153	65,138	9,872	94,771	9 60
Simcoe	13,187	81,259	94,446	491,727	148,022	1,122,007	7 58
Stormont	2,661	11,864	14,525	90,602	14,642	115,965	7 92
Victoria	4,887	27,523	32,410	165,593	33,799	281,208	8 32
Waterloo	4,974	33,749	38,723	207,607	48,676	379,673	7 80
Welland	2,401	14,153	16,554	90,820	20,583	149,021	7 24
Wellington	9,264	65,037	74,301	418,664	86,410	671,406	7 77
Wentworth	4,026	28,346	32,372	175,846	59,846	429,694	7 18
York	7,025	54,849	61,874	306,279	80,539	551,692	6 85
The Province:							
1900	265,457	1,506,184	1,771,641	9,598,153	2,056,049	15,800,799	7 69
1899	295,349	1,675,721	1,971,070	10,180,338	1,875,466	14,157,394	7 55
1898	265,048	1,375,739	1,640,787	8,720,242	1,592,697	11,852,535	7 44
1897	235,479	1,049,484	1,284,963	6,533,210	1,399,967	10,080,812	7 20
1896	243,756	1,025,875	1,269 631	6,505,227	1,304,359	10,022,525	7 68
1895	244,185	1,054,887	1,299.072	7,101,211	1,159,992	10,067,667	8 68
1894	227,878	914,255	1,142,133	6,909,262	1,030,567	10,158,978	9 86
1893	220,396	791,626	1,012,022	6,622,129	975,358	10,296,828	10 56
1892	231,320	765,654	996,974	5,479,093	978,791	8,775,852	8 97
1891	224,125	932,191	1,156,316	.....	.....	.....	.....

POULTRY.

TABLE XXIII. Showing by County Municipalities of Ontario, the number and value of Poultry on hand July 1, 1900, together with the totals for the Province for the past ten years; also, the number and value of Poultry sold or killed during the year ending June 30.

Counties and districts.	On hand July 1.						Sold or killed in year.	
	Turkeys.	Geese.	Ducks.	Other fowls.	Totals. No.	Totals. Value.	No.	Value.
						$		$
Algoma	2,531	1,281	1,296	31,571	36,679	10,422	10,824	3,572
Brant	9,077	4,382	3,963	98,228	115,650	34,404	47,169	18,869
Bruce	28,595	16,888	20,572	232,592	298,647	82,187	78,817	30,738
Carleton	29,289	13,508	12,012	199,590	254,399	81,293	89,297	33,933
Dufferin	12,037	10,954	6,093	112,774	141,858	41,304	44,946	14,832
Dundas	22,880	7,225	6,748	129,351	166,204	50,922	42,519	17,008
Durham	18,715	11,386	9 192	172,151	211,444	60,424	66,289	23,864
Elgin	31,224	6,500	9,738	231,681	279,143	77,187	108,030	38,891
Essex	26,650	10,526	16,111	273,766	327,053	85,621	122,899	39,328
Frontenac	15,747	6,737	10,427	107,962	140,873	43,677	68,751	22,688
Glengarry	13,097	4,355	4,906	119,047	141,405	40,656	44,657	15,183
Grenville	18,135	4,988	6,860	97,440	127,423	39,767	38,685	12,766
Grey	37,561	19,353	24,716	304,990	386,620	111,300	115,628	43,939
Haldimand	14,703	5,373	6,953	127,729	154,758	42,552	56,137	18,525
Haliburton	2,958	927	113	15,390	19,388	5,595	6,897	1,862
Halton	11,932	6,031	4,020	100,058	122,041	36,739	53,730	22,029
Hastings	20,253	9,281	10,424	213.569	253,527	70,178	87,441	33,228
Huron	44,799	21,372	29,273	380,737	476,181	126,861	119,114	45,263
Kent	25,478	10,318	20,355	301,687	357,838	92,466	106,780	32,034
Lambton	34,501	9,097	17,662	291,338	352,598	98,030	107,960	41,025
Lanark	20,466	8,034	3,731	140,870	173,101	53,020	51,307	20,523
Leeds	24,742	6,296	7,821	133 999	172,858	51,663	63,807	27,437
Lennox and Add	11,457	6,509	7,972	124,305	150,243	42,859	55,557	21,112
Lincoln	8,822	2,949	4,999	104,886	121,656	36,288	60,655	25,475
Manitoulin	2,483	1,672	1,004	18,973	24,132	7,140	8,587	2,748
Middlesex	68,793	16,332	22,768	403,410	511,303	154,520	174,790	69,916
Muskoka	3,728	1,304	1,350	37,849	44,231	12,977	15,642	5,162
Nipissing	1,057	429	482	15,771	17,739	5,136	8,155	2,854
Norfolk	18,908	4,683	7,921	179,890	211,402	57,399	72,760	21,828
Northumberland	17,506	13,056	8 638	195,681	234,881	66,546	68,485	26,709
Ontario	17,757	13,332	12,308	219,927	263,324	74,841	83,055	29,900
Oxford	24,948	5,336	11,124	231,011	272,419	74,200	89,858	35,943
Parry Sound	4,397	2,052	637	35,024	42,110	13,094	12,415	4,221
Peel	18,843	9,229	12.733	154,172	194,977	64,539	83,144	35,752
Perth	22,106	15,809	18,039	258,251	314,205	80,744	75,937	30,375
Peterborough	22,776	9,735	7,222	139,383	179,116	53,103	48,529	19,412
Prescott	10,896	4,753	6,947	95,741	118,337	35,372	47,194	18,406
Prince Edward	9,165	2,873	6,259	106,109	124.406	33,805	34,864	13,597
Renfrew	16,451	9,998	6,910	117,485	150,844	45,641	45,788	17.857
Russell	7,172	2,813	3,011	55,776	68,772	21,557	29,750	11,305
Simcoe	30,508	23.699	17,359	332,117	403,683	113,790	119,290	41,752
Stormont	12,213	4,413	2,792	98,243	117,661	34.790	31.348	11,285
Victoria	21,056	10,193	8,806	163,835	203,890	58,082	55,626	22,250
Waterloo	7,476	4.090	5,853	145,385	162,804	42,484	48,320	14,496
Welland	11,211	3,177	8,345	128.285	151,018	41.803	72,373	23,159
Wellington	27,966	18,545	17,020	251,856	315,387	93,396	99,450	40,775
Wentworth	10,276	4,806	8,439	135,710	159,231	45,265	79,402	29,379
York	17,592	12,291	15,148	228,751	273,782	81,724	111,629	43,535
The Province:								
1900	890,933	398,890	457,072	7,794,346	9,541,241	2,727,363	3,164,287	1,176,740
1899	927,456	421,830	458,497	7,536,241	9,344,024	2,658,321	3,102,614	1,162,991
1898	1,024,285	454,335	7,605,653		9,084,273	2,578,136	3,072,767	1,131,923
1897	890,228	409,715	7,135,398		8,435,341	2,318,038	2,965,921	1,083,914
1896	715,770	391,547	6,626,850		7,734,167	2,130,807	2,711,771	985,629
1895	696,604	420,022	6,636,214		7,752,840	2,156,623	2,392,458	860,334
1894	689,205	438,208	6,425,249		7,552,662	2,208,518	2,131,222	782,588
1893	638,527	439,482	6,036,427		7,114,436	2,187,158	2,017,507	753,695
1892	628,504	445,154	6,005,315		7,078,973	2,091,450	1,966,409	778,308
1891	507,907	458,290	6,039,893		7,006,090	.....	.....	.....

WOOL.—BEES.

TABLE XXIV. Showing by County Municipalities of Ontario the number, weight and value of fleeces of the wool clip in 1900, together with the totals for the Province for the past ten years; also the number of colonies of bees and the value of apiaries.

Counties and districts.	Clip of wool.				Colonies of bees.		
	No.	Pounds.	Lb. per fleece.	Value.	No.	Value (including outfit).	Value per hive.
				$		$	$ c.
Algoma	5,199	31,371	6.03	4,831	198	1,188	6 00
Brant	11,109	71,795	6.46	11,056	4,933	27,181	5 51
Bruce	56,046	354,950	6.33	54,662	5,486	31,380	5 72
Carleton	19,824	113,271	5.71	17,444	5,819	29,851	5 13
Dufferin	21,726	129,570	5.96	19,954	2,906	15,692	5 40
Dundas	6,134	37,574	6.12	5,786	5,238	25,247	4 82
Durham	24,808	169,052	6.81	26,034	3,622	16,951	4 68
Elgin	28,050	176,151	6.28	27,127	5,889	30,858	5 24
Essex	12,501	76,390	6.11	11,764	7,939	38,187	4 81
Frontenac	15,328	82,522	5 38	12,708	3,357	15,644	4 66
Glengarry	11,795	67,006	5 68	10,319	8,378	37,282	4 45
Grenville	7,184	38,074	5 30	5,863	7,640	35,984	4 71
Grey	70,333	416,636	5 92	64,162	7,024	42,706	6 08
Haldimand	14,473	97,403	6.73	15,000	5,867	28,396	4 84
Haliburton	5,038	26,227	5.21	4,039	311	1,583	5 09
Halton	11,433	81,595	7.14	12,566	1,190	6,378	5 36
Hastings	27,429	144,411	5 26	22,239	6,677	35,121	5 26
Huron	47,299	283,079	5.98	43,594	5,922	35,532	6 00
Kent	24,514	162,413	6 63	25,012	6,661	36,169	5 43
Lambton	27,576	170,909	6 20	26,320	7,627	37,754	4 95
Lanark	27,615	139,489	5 05	21,481	6,779	34,166	5 04
Leeds	11,121	60,463	5 44	9,311	9,140	45,426	4 97
Lennox and Addington	12,701	68,023	5.36	10,476	4,190	24,302	5 80
Lincoln	9,193	47,431	5.16	7,304	2,195	11,787	5 37
Manitoulin	10,844	64,752	5 97	9,972	818	3,828	4 68
Middlesex	32,397	222,353	6.86	34,242	12,165	67,759	5 57
Muskoka	11,920	60,534	5.08	9,322	843	4,072	4 83
Nipissing	1,212	6,395	5.28	985	67	335	5 00
Norfolk	16,245	92,289	5.68	14,213	6,818	32,386	4 75
Northumberland	16,058	104,174	6.49	16,043	6,783	32,694	4 82
Ontario	30,653	225,917	7.37	34,791	3,231	16,510	5 11
Oxford	11,650	72,125	6.19	11,107	4,192	25,320	6 04
Parry Sound	11,933	67,876	5.69	10,453	252	1,142	4 53
Peel	11,679	81,329	6 96	12,525	2,105	13,661	6 49
Perth	23,034	135,148	5.87	20,813	3,975	19,716	4 96
Peterborough	16,164	92,541	5.73	14,251	3,883	17,551	4 52
Prescott	9,230	56,639	6.14	8,722	5,375	29,724	5 53
Prince Edward	4,621	26,704	5.78	4,113	2,603	11,219	4 31
Renfrew	39,025	187,382	4.80	28,857	6,207	32,711	5 27
Russell	5,947	33,173	5.58	5,109	2,841	14,830	5 22
Simcoe	56,118	345,673	6.16	53,234	4,266	26,108	6 12
Stormont	4,805	28 963	6 03	4,460	2,046	9,698	4 74
Victoria	28,950	175,759	6.07	27,067	4,292	24,937	5 81
Waterloo	13,346	80,175	6.01	12,347	1,382	8,886	6 43
Welland	10,111	54,497	5.39	8,393	4,404	23,782	5 40
Wellington	47,226	312,439	6.60	48,116	2,480	14,632	5 90
Wentworth	11,641	73,929	6.35	11,385	3,738	23,437	6 27
York	24,069	159,350	6.62	24,540	6,980	39,856	5 71
The Province:							
1900	957,307	5,805,921	6.06	894,112	216,734	1,139,559	5 26
1899	928,184	5,525,122	5.95	790,092	203,343	1,053,454	5 18
1898	865,179	5,104,686	5.90	847,378	190,080	998,049	5 25
1897	887,003	5,139,984	5.79	945,757	166,811	885,196	5 31
1896	991,371	5,581,387	5.63	1,026,975	160,076	854,408	5 34
1895	1,109,140	6,214,811	5.60	1,242,962	173,173	938,658	5 42
1894	1,092,467	6,235,036	5.71	1,053,721	200,094	1,051,574	5 26
1893	1,015,497	5,896,891	5 81	1,073,234	205,168	1,162,945	5 67
1892	961,160	5,643,706	5.87	1,027,154	195,822	.....	.....
1891	954,522	5,498,141	5.76	1,066,639	.....	.....	.....
1882-1900	985,871	5,561,043	5.64	1,010,947	.....	.....	.....

FARM PROPERTY, IMPLEMENTS AND LIVE STOCK.

TABLE XXV. Showing by County Municipalities of Ontario the values of farm lands, buildings, implements and life stock for the year 1900, together with the totals for the Province for the past ten years; also, the aggregate value of live stock sold or slaughtered as determined from Tables xix-xxiii.

Counties and districts.	Value of farm property.					Value of live stock sold.
	Land.	Buildings.	Implements.	Live stock.	Total.	
	$	$	$	$	$	$
Algoma	2,281,975	577,237	197,685	485,884	3,542,781	125,143
Brant	8,916,507	3,932,418	822,595	1,516,103	15,187,623	529,733
Bruce	20,618,178	7,338,218	2,028,130	5,562,432	35,546,958	1,863,229
Carleton	16,243,959	5,452,430	1,531,185	3,122,019	26,349,593	862,213
Dufferin	8,812,556	2,883,455	843,642	2,010,156	14,549,809	701,150
Dundas	6,883,092	2,878,134	799,606	1,675,263	12,236,095	394,118
Durham	12,597,954	5,003,957	1,137,284	2,479,231	21,218,426	778,491
Elgin	16,259,969	6,132,121	1,577,505	3,355,981	27,325,576	1,381,466
Essex	15,766,498	5,630,723	1,553,528	2,700,567	25,051,316	1,085,066
Frontenac	8,128,239	3,049,711	947,832	1,861,861	13,987,643	439,181
Glengarry	6,939,668	3,371,814	938,971	1,919,963	13,170 416	408,533
Grenville	6,701,957	2,878,610	709,473	1,440,112	11,730,152	315,903
Grey	21,028,810	8,352,618	2,553,243	5,781,708	37,716,379	1,962,760
Haldimand	7,734,708	3,759,085	1,032,201	1,797,235	14,323,229	569,000
Haliburton	1,034,170	310,075	109,923	314,921	1.769,089	78,501
Halton	9,666,357	4,029,061	872,803	1,531,116	16,099,337	511,820
Hastings	14,307,832	5,408,812	1,572,643	3,340,340	24,629,627	829,176
Huron	28,074,341	10,217,004	2,587,446	6,588,199	47,466,990	2,486,314
Kent	22,748,898	7,041,012	2,067,154	4,300,709	36,157,773	1,645,058
Lambton	18,516,643	6,031,088	1,746,700	3,846,336	30,140,767	1,466,986
Lanark	10,087,690	3,754,329	961,651	2,369,703	17,173,373	658,729
Leeds	10,654,645	4,342,323	1,029,589	2,343,025	18,369,582	529,835
Lennox and Addington	8,447,565	3,739,408	948,896	1,947,794	15,113,663	505,458
Lincoln	9,553,236	4,117,576	914,220	1,294,543	15,879,575	404,365
Manitoulin	964,674	361,959	135,711	417,191	1,879,535	125,142
Middlesex	29,915,542	10,925,614	2,642,338	6,639,774	50,123,268	2,703,849
Muskoka	1,932,569	803,765	276,823	649,644	3,662,801	160,765
Nipissing	1,015,568	271,656	106,227	212,715	1,506,166	44,323
Norfolk	11,242,778	4,759,587	1,193,419	2,109,447	19,305,231	683,300
Northumberland	12,354,739	5,103,462	1,251,842	2,519,114	21,229,157	710,541
Ontario	16,105,630	6,228,104	1,520,018	3,640,588	27,494,340	1,298,801
Oxford	20,128,453	7,882,051	1,703,708	4,082,960	33,797,172	1,639,609
Parry Sound	1,801,572	683,821	230,881	661,296	3,377,570	143,116
Peel	11,211,443	4,710,858	1,043,683	2,201,478	19,167,462	634,241
Perth	20,339,651	7,752,736	2,016,159	4,663,431	34,771,977	1,653,595
Peterborough	9,408,190	2,989,062	882,789	1,903,047	15,183 088	562,448
Prescott	6,664,613	2,614,885	793,097	1,469,050	11,541,645	315,559
Prince Edward	6,964,176	3,355,517	902,140	1,234,622	12,456,455	274,798
Renfrew	9,986,298	3,873,690	1,195,183	2,674,167	17,729,338	685,713
Russell	5,111,739	1,436,425	529,759	1,041,805	8,119,728	230,101
Simcoe	23,689,123	8,560,297	2,502,408	5,414,727	40,166,555	2,232,865
Stormont	5,631,511	2,752,487	689,560	1,339,734	10,413,292	246,345
Victoria	10,195,995	3,587,634	1,005,071	2,503,676	17,292,376	750,618
Waterloo	12,084,907	5,301,865	1,231,243	2,169,510	20,787,525	1,177,881
Welland	8,233,533	3,648,576	852,708	1,324,060	14,058,877	424,251
Wellington	19,452,641	7,856,977	1,921,608	4,759,709	33,990,935	2,151,218
Wentworth	12,806,319	5,189,012	1,224,922	2,112,679	21,332,932	788,339
York	25,480,499	9,177,111	1,988,928	3,945,196	40,591,734	1,472,966
The Province:						
1900	574,727,610	219,488,370	57,324,130	123,274,821	974,814,931	41,642,617
1899	563,271,777	213,440,281	54,994,857	115,806,445	947,513,360	38,457,018
1898	556,246,569	210,054,396	52,977,232	103,744,223	923,022,420	34,450,583
1897	554,054,552	206,090,159	51,299,098	93,649,804	905,093,613	29,753,599
1896	557,468,270	205,235,429	50,730,358	96,857,566	910,291,623	28,748,995
1895	572,938,472	204,148,670	50,944,385	103,958,047	931,989,574	29,301,131
1894	587,246,117	204,071,566	51,530,172	111,547,652	954,395,507	31,935,589
1893	602,664,361	200,189,888	51,435,919	116,070,902	970,361,070	54,510,256
1892	615,828,471	195,644,258	51,003,020	117,501,495	979,977,244	32,453,617
1891	621,245,223	191,268,327	50,651,442	108,721,076	971,886,068	.....

FARM VALUES AND RENTALS.

TABLE XXVI. Showing by county Municipalities of Ontario, average values per acre of farm property in 1900 and rentals of leased farms based upon (1) the total acreage occupied, and (2) the area cleared, together with the averages for the Province for the past ten years.

Counties and districts.	Farm values, average per acre, occupied.					Value buildings, implements and live stock per acre cleared.	Rent per acre on land.	
	Land.	Buildings.	Implements.	Live stock.	Total.		Occupied.	Cleared.
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Algoma	3 06	77	27	65	4 75	26 20	59	1 82
Brant	41 31	18 22	3 81	7 02	70 36	35 31	2 69	3 19
Bruce	22 88	8 14	2 25	6 17	39 44	28 29	1 54	2 05
Carleton	28 57	9 59	2 70	5 49	46 35	32 81	1 88	2 56
Dufferin	24 74	8 10	2 37	5 65	40 86	23 86	1 77	2 23
Dundas	29 17	12 19	3 39	7 10	51 85	35 00	1 90	2 61
Durham	34 02	13 51	3 07	6 70	57 30	29 52	2 10	2 44
Elgin	37 31	14 07	3 62	7 70	62 70	33 36	2 22	2 82
Essex	36 58	11 67	3 60	6 26	58 11	32 74	2 46	3 04
Frontenac	11 76	4 41	1 37	2 70	20 24	22 71	96	1 65
Glengarry	24 28	11 80	3 29	6 72	46 09	33 06	1 52	2 15
Grenville	24 70	10 61	2 61	5 31	43 23	29 54	1 41	1 83
Grey	19 83	7 87	2 41	5 45	35 56	25 79	1 34	1 83
Haldimand	27 56	13 40	3 68	6 40	51 04	28 53	1 62	2 02
Haliburton	1 82	55	19	55	3 11	20 24	41	1 05
Halton	42 90	17 88	3 87	6 79	71 44	38 14	2 48	3 07
Hastings	13 88	5 25	1 53	3 24	23 90	25 78	1 28	2 14
Huron	35 16	12 80	3 24	8 25	59 45	31 13	2 16	2 55
Kent	40 10	12 41	3 65	7 58	63 74	32 06	2 77	3 36
Lambton	28 04	9 13	2 65	5 83	45 65	29 24	1 76	2 36
Lanark	14 94	5 56	1 43	3 51	25 44	22 58	1 12	1 81
Leeds	22 84	9 30	2 21	5 02	39 37	27 25	1 56	2 31
Lennox and Addington	19 28	8 60	2 17	4 44	34 49	23 79	1 49	2 01
Lincoln	49 95	21 53	4 78	6 76	83 02	39 45	2 78	3 24
Manitoulin	4 53	1 70	64	1 96	8 83	23 45	52	1 36
Middlesex	39 49	14 42	3 49	8 76	66 16	34 13	2 38	2 92
Muskoka	3 62	1 50	52	1 22	6 86	29 21	31	1 62
Nipissing	3 50	93	36	73	5 52	23 87	61	2 85
Norfolk	27 98	11 84	2 97	5 25	48 04	31 04	2 05	2 60
Northumberland	28 35	11 71	2 87	5 78	48 71	26 30	1 79	2 20
Ontario	32 17	12 44	3 04	7 27	54 92	31 43	2 19	2 68
Oxford	42 67	16 71	3 61	8 66	71 65	36 31	2 59	3 15
Parry Sound	3 10	1 18	40	1 14	5 82	25 04	32	1 53
Peel	38 93	16 36	3 62	7 65	66 56	31 49	2 50	2 89
Perth	39 22	14 95	3 89	8 99	67 05	34 20	2 36	2 79
Peterborough	16 48	5 24	1 55	3 33	26 60	23 14	1 25	1 99
Prescott	22 89	8 98	2 72	5 04	39 63	29 50	1 44	2 12
Prince Edward	29 94	14 42	3 88	5 31	53 55	27 76	1 97	2 37
Renfrew	10 23	3 97	1 22	2 74	18 16	24 74	1 18	2 24
Russell	20 38	5 73	2 11	4 15	32 37	30 82	1 46	2 23
Simcoe	24 59	8 88	2 60	5 62	41 69	28 47	1 82	2 34
Stormont	22 63	11 06	2 77	5 39	41 85	32 29	1 58	2 35
Victoria	17 06	6 00	1 68	4 19	28 93	26 09	1 51	2 18
Waterloo	39 38	17 27	4 01	7 07	67 73	35 12	2 25	2 66
Welland	36 23	16 05	3 75	5 83	61 86	32 36	1 79	2 17
Wellington	31 01	12 52	3 06	7 59	54 18	30 63	1 89	2 37
Wentworth	47 07	19 07	4 50	7 77	78 41	39 81	2 69	3 24
York	47 47	17 10	3 71	7 35	75 63	35 03	2 97	3 47
The Province :								
1900	24 37	9 31	2 43	5 23	41 34	30 09	1 80	2 48
1899	24 02	9 10	2 34	4 94	40 40	29 31	1 77	2 51
1898	23 78	8 98	2 26	4 44	39 46	28 23	1 76	2 50
1897	23 72	8 82	2 20	4 01	38 75	27 31	1 73	2 44
1896	24 06	8 85	2 19	4 18	39 28	27 84	1 88	2 54
1895	24 79	8 83	2 20	4 50	40 32	28 89	1 87	2 59
1894	25 49	8 86	2 23	4 84	41 42	29 86	1 88	2 65
1893	26 25	8 72	2 24	5 05	42 26	30 31	2 00	2 72
1892	26 91	8 55	2 23	5 13	42 82	30 38	1 98	2 74
1891	27 57	8 49	2 25	4 82	43 13	29 71	1 95	2 70

MARKET PRICES.

TABLE XXVII. The following table is compiled from thirty well distributed market points. The figures for the six months, July-December, are also given, together with the average price for the past ten years, and the average for nineteen years.

Markets.	Fall wheat, per bush.	Spring wheat, per bush.	Barley, per bush.	Oats, per bush.	Peas, per bush.	Beans, per bush.	Rye, per bush.	Buckwheat, per bush.	Corn (in ear) per bush.	Hay, per ton.	Potatoes, per bush.	Wool, per lb.
	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	cts.	$ cts.	cts.	cts.
Barrie	64 8	.....	36 7	25.5	57.0	. ...	45.5	.....	.....	8 31	37.8	15.3
Belleville	66.8	63.0	40.3	25.7	56.4	.....	49.1	44.6	33.5	8 16	....	14.5
Bowmanville	67.3	67.3	37.3	24.3	58.1	... .	50.1	42.1	.....	7 23	30.0	.....
Brampton	66.7	.....	40 2	25.8	56.2	.....	...	.....	.....	9 87	33.8	.....
Brantford	66.2	66.2	37.7	28.1	52.1	.....	45.6	50.0	33.3	8 69	55.0	15.8
Brockville	72.5	71.0	41.8	28.3	61.0	.....	49.0	45.8	32 0	10 88	43.7	.....
Chatham	65.5	.....	34.2	23.2	.....	90.4	50.7	39.0	37.5	6 58	46.5	15.5
Essex	64.8	.....	40.0	23.0	.....	....	.....	.....	30.7	9 00	38.4	14.0
Forest	65.7	. ...	38.6	24.7	54.0	70.0	47.7	40.0	30.0	5 87	65.0	.....
Galt	67.4	67.4	45.4	28.8	65.0	.....	.....	.....	....	9 90	44.9	16.5
Goderich	63.0	.....	36.0	25.1	55.1	.....	45.0	45.0	.....	7 38	38.1	.....
Guelph	66.8	.....	39 8	25.8	59.7	.....	44.8	.....	.....	8 02	31.0	15.6
Hamilton	67.5	.....	39.2	28.8	55.1	.....	48.8	.....	.....	11 02	.....	15.0
Kingston	.....	69.4	41 6	26 5	60.0	.....	50.4	48.7	.....	.....	48.5	.....
Lindsay	65.7	65.4	37.4	24.1	57.0	....	45.0	42.7	.....	6 92	28.3	15.1
London	65.0	65.5	38.1	28 1	55.9	94.2	50.1	42.0	29.6	7 66	34.8	15.0
Orangeville	64.2	63.8	38.8	24.7	57.4	.....	47.6	41.8	.....	6 50	29.0	15.5
Ottawa	.....	70.0	35.0	33.8	67.5	110.0	45.0	40.3	23.8	8 76	41.0	.....
Owen Sound	62.5	62.6	40.8	27.3	57.2	.	....	39.0	.....	8 55	37.5	14.7
Pembroke	67.5	67.5	35.5	27.3	56.7	130.0	46.5	. ...	.....	7 25	45.0	.....
Perth	78.6	78.6	40 0	25.0	55 0	.....	45.0	43.6	.....	.....	29.4	17.0
Peterborough	65.9	65.8	38.6	26.7	58.1	....	46.5	44.0	...	8 08	49.1	15.0
St. Thomas	65 1	.....	38.8	27.8	45.7	.....	60 0	.....	36 6	8 23	37.3	15.5
Simcoe	64.6	. ..	36 6	26 4	48.9	.....	45.8	43.3	29.0	8 29	39.8	.....
Stratford	63.3	.....	34.1	23.2	53.2	...	.	.....	.....	7 83	39.6	.....
Toronto	69.6	70.5	43.0	29.9	60.1	123.8	53.0	48.5	33.8	12 39	34.5	16.0
Walkerton	65.0	64.2	39.0	26 4	58 0	.....	.....	.....	.....	6 50	41.1	.....
Waterloo	65.6	. ..	.	26.6	55.9	.....	.....	.....	.....	9 50	....	.....
Whitby	65.3	65.4	37.7	24.9	56 3	.....	49.0	45.1	. ..	7 44	28 9	15.5
Woodstock	66 0	.	38.4	26.6	60 0	.....	50 7	.....	33.5	8 50	38.6	16.5
The Province:												
July	69.5	70.0	39.8	28.7	58 3	.....	50.4	.....	.....	8 12	.....	15.5
August	67 2	68.2	38.6	27.9	57.4	.....	49.6	.....	.....	7 99	.....	15.6
September	66 1	67.3	38 8	26.4	56.7	.....	48.1	. ...	.....	8 36	.....	15.3
October	66.4	67 7	39.1	25.3	56 6	100.0	48.1	43.6	31.8	8 64	40.9	15.4
November	64.8	66.0	38.4	25.2	56 4	100 2	47.4	43.3	31.5	8 67	38 3	15.3
December	64 2	65.6	38 2	26.1	57.2	98.8	47.1	44.2	31.5	9 11	38.4	15.4
Average for six months:												
1900	66.4	67.5	38 9	26.5	57 1	99 7	48.5	43 7	31.7	8 48	26 1	15.4
1899	66 7	66 5	39.5	27.7	57.3	108 0	50.0	45.5	19.8	7 72	32.8	14.3
1898	69.4	69.2	38.0	25.8	52 2	70.0	43.5	38.2	20.1	6 22	44.1	16.6
1897	78.2	78.6	27.0	22 6	42.1	65.2	37.7	30.0	19.7	7 18	39.9	18.4
1896	71.0	70.6	31 6	20 0	44.0	68.4	36.6	30 5	19.6	9 68	26 2	18.4
1895	69.3	69.8	40 0	29 1	54.8	94.7	45 6	36 8	22.6	12 30	20.2	20.0
1894	55.0	55.5	40 5	30.8	53 6	110.4	44.2	39 2	26 1	7 56	35 4	16 9
1893	59.9	59.4	40 1	33.2	54.0	118 0	47.5	41 8	26.5	7 64	39.5	18.2
1892	70 7	67.8	41.3	30 8	59 0	98.8	55.8	42.2	26.3	8 20	50.4	18.2
1891	95.1	92.9	49.1	36.5	63.8	106.1	72.3	44.1	31.1	11 91	32.6	19.4
1882-1900	79.3	81.8	48.2	31.0	57.2	99 8	51.8	39.3	*23.3	9 14	39.2	18.2

* Average for the nine years, 1892-1900.

CHEESE FACTORIES.

TABLE XXVIII. Showing by county Municipalities of Ontario the number of cheese factories in operation, the quantity and value of cheese made, the number of patrons and the amount paid to patrons by milk delivered at the factories in 1900, together with the totals for the Province for the past ten years.

Counties and Districts.	Factories in operation.	Quantity of—		Gross value of cheese.	Average No. of patrons.	Milk to make 1 lb. of cheese.	Value of cheese per 100 lb.	Amount paid to patrons for milk at the factory.	
		Milk used.	Cheese made					Total.	Per 100 lb. milk.
		lb.	lb.	$		lb.	$ c.	$	cts.
Algoma and Manitoulin	3	781,290	73,326	7,515	93	10.66	10 25	6,691	85.6
Brant	9	10,585,992	959,581	95,981	554	11.03	10 00	86,317	81.5
Bruce	16	20,140,483	1,850,098	188,650	1,346	10.89	10 20	169,172	84.0
Carleton	60	54,318,817	5,199,743	534 308	2,310	10.45	10 28	475,433	87.5
Dufferin	3	3,123,560	283,063	28,874	222	10.03	10 21	25,651	82.1
Dundas	55	76,635,903	7,382,917	758,030	1,842	10.38	10 27	679,388	88.7
Durham	13	13,819,932	1,265,538	129,478	1,080	10.92	10 23	117,353	84.9
Elgin	21	39,917,503	3,637,418	361,195	1,803	10.97	9 93	323,398	81.0
Essex	7	3,369,750	310,559	31,189	349	10.85	10 01	26,737	79.3
Frontenac	69	58,972,388	5,589,959	564,514	2,349	10.55	10 10	506,983	86.0
Glengarry	66	51,687,928	4,905,859	511,992	1,861	10.54	10 44	455,427	88.1
Grenville	39	56,848,163	5,341,811	550,729	1,828	10.64	10 31	496,915	87.4
Grey	9	5,599,544	512,279	52,320	476	10 93	10 21	46,354	82.8
Haldimand	11	11,116,530	1,016,455	102,510	1,007	10.93	10 09	90,990	81.9
Haliburton	6	1,814,077	174,598	17,311	109	10.38	9 91	14,494	79.9
Hastings	96	108,623,001	10,218,947	1,039,267	4,142	10.63	10 17	949,335	87.4
Huron	16	18,247,843	1,644,888	168,134	1,396	11.09	10 22	151,759	83.2
Kent	4	2,665,893	242,116	23,435	221	11.01	9 68	20,653	77.5
Lambton	15	11,975,478	1,097,679	110,712	1,121	10.91	10 09	96,915	80.9
Lanark	44	50,673,983	4,774,952	496,054	2,285	10 61	10 39	446,802	88.2
Leeds	82	104,358,949	9,640,890	983,760	2,629	10.82	10 20	883,010	84.6
Lennox & Addington	32	51,217,848	4,927,758	501,858	2,488	10.39	10 18	454,459	88.7
Lincoln	3	3,981,258	359,693	36,168	364	11 07	10 06	32,681	82.1
Middlesex	32	55,482,403	5,033,427	510,395	2,077	11.02	10 14	454,952	82.0
Muskoka	3	741,444	69,825	7,313	75	10.62	10 47	6,360	85.8
Norfolk	24	26,855,341	2,445,277	244,676	2,029	10.98	10 01	217,693	81.1
Northumberland	42	57,330,840	5,226,254	529,187	2,739	10.97	10 13	474,684	82.8
Ontario	5	1,526,385	135,968	13,653	205	11.23	10 04	11,588	75.9
Oxford	45	105,152,641	9,562,602	965,408	3,386	11.00	10 10	875,449	83.3
Parry Sound	5	1,156,180	110,538	11,293	120	10.46	10 22	9,580	82.9
Peel and Halton	5	2,111,805	201,702	19,875	83	10.47	9 85	17,208	81.5
Perth	25	49,682,255	4,520,081	464,967	2,441	10.99	10 29	414,845	83.5
Peterborough	37	41,777,833	3,846,360	395,735	2,021	10.86	10 29	359,411	86.0
Prescott	67	51,573,487	5,080,845	510,520	1,808	10.15	10 05	450,485	87.3
Prince Edward	23	37,236,901	3,509,353	358,143	1,817	10.61	10 21	319,215	85.7
Renfrew	24	20,654,802	1,979,570	202.918	1,178	10.43	10 25	178,968	86.6
Russell	46	34,893,854	3,411,600	343,868	1,464	10.23	10 08	305,012	87.4
Simcoe	12	5,574,405	515,327	52,169	525	10.82	10 12	45,423	81.5
Stormont	48	64,715,188	6,220,386	636,313	2,121	10.40	10 02	573,556	88.6
Victoria	20	17,503.390	1,631,733	167,130	1,117	10.73	10 24	148,436	84.8
Waterloo	7	6,180,225	549,546	56,783	402	11.25	10 33	50,198	81.2
Welland	3	3,209,903	305,478	30,246	295	10.84	9 90	26,818	81.0
Wellington	10	14,627,672	1,312,624	136,143	866	11.14	10 37	122,081	83.5
Wentworth	7	5,556,597	498,188	51,054	465	11.15	10 25	44,869	80.7
York	4	2,314,035	212,732	21,652	185	10.88	10 18	18,712	80.9
The Province:									
1900	1,173	1,366,433,199	127,789,543	13,023,025	59,294	10.61	10 19	11,682,470	85.5
1899	1,203	1,311,530,927	123,323,923	12,120,887	60,443	10.63	9 83	10,682,193	81.4
1898	1,187	1,374,399,482	128,116,924	10,252,240	65,121	10.73	8 00	8,417,535	61.2
1897	1,161	1,455,937,148	137,362,916	11,719,468	66,104	10.60	8 53	9,709,004	66.6
1896	1,147	1,108,124,659	104,393,985	8,646,735	57,635	10.62	8 28	7,040,927	63.5
1895	1,164	1,174,008,592	109,230,340	8,607,389	65,661	10.75	7 88	6,922,962	59.0
1894	1,011	1,027,577,831	97,284,547	9,441,247	54,839	10.56	9 70	7,931,022	77.2
1893	897	911,791,204	86,166,719	8,338,709	50,870	10.58	9 68	.....	.....
1892	856	984,356,444	93,848,948	8,959,939	48,601	10.49	9 55	.....	...
1891	838	865,453,574	81,929,042	7,656,484	45,066	10.56	9 35	.....	.....

PART II—CHATTEL MORTGAGES.

Table showing by County Municipalities of Ontario the total number and amount of Chattel Mortgages on record and undischarged on December 31st, 1900, against (1) all occupations; (2) farmers; together with totals for the Province for the past ten years.

Counties and districts.	Chattel Mortgages Against all Occupations.				Chattel Mortgages Against Farmers.			
	To secure existing debt.		For future indorsation.		To secure existing debt.		For future indorsation.	
	No.	Amount.	No.	Amount	No.	Amount.	No.	Amount
		$		$		$		$
Algoma	159	777,846	....	.....	77	15,981	....	.....
Brant	335	151,140	2	200,000	131	88,847	....	.....
Bruce	654	248,130	....	.....	441	135,530	....	.....
Carleton	646	891,325	6	10,060	109	43,174	3	710
Dufferin	202	82,536	....	.....	144	51,920	....	.....
Elgin	489	184,913	....	.....	229	80,668	....	.....
Essex	381	317,302	48	98,467	206	228,656	19	2,206
Frontenac	404	152,997	....	.....	216	84,859	....	.....
Grey	812	243,855	3	2,468	645	172,350	....	.....
Haldimand	160	49,014	....	.....	117	27,145	....	.....
Haliburton	59	27,216	1	7,000	48	5,663	....	.....
Halton	114	65,703	....	.....	56	28,626	....	.....
Hastings	585	311,950	50	5,047	434	114,874	13	1,783
Huron	373	255,830	10	3,826	213	96,872	3	494
Kent	1,144	324,780	....	.....	871	193,463	....	.....
Lambton	450	177,075	84	22,004	266	62,777	52	12,040
Lanark	215	127,381	11	1,449	101	47,933	3	338
Leeds and Grenville	362	141,212	13	7,935	222	56,123	10	6,104
Lennox and Addington	226	77,821	3	3,700	130	52,131	1	400
Lincoln	249	186,508	4	5,490	80	21,529	1	430
Manitoulin	90	41,297	..	.....	55	14,928	....	.....
Middlesex	662	245,001	....	.....	210	84,907	....	.....
Muskoka	197	131,418	5	45,200	112	15,714	....	.....
Nipissing	255	955,718	3	2,670	148	27,693	..	.....
Norfolk	259	56,333	..	.....	178	37,759	....	.....
*Northumberland and Durham	594	338,350	2	2,370	386	168,125	..	.....
*Ontario	383	244,034	3	3,750	264	157,584	1	3,000
Oxford	278	220,362	3	7,975	127	64,283	1	575
Parry Sound	152	802,293	.	.....	36	4,359	....	.....
Peel	146	57,891	1	204	109	41,263	1	204
Perth	187	133,966	1	3,000	89	44,202	....	.....
Peterborough	299	240,546	....	.....	145	55,413	....	.....
Prescott and Russell	156	41,160	1	1,500	119	28,828	....	.....
Prince Edward	177	120,155	1	245	132	49,783	1	245
Rainy River	89	100,148	4	3,460	4	937	....	.....
Renfrew	284	189,345	6	13,638	182	52,717	....	.....
Simcoe	545	601,515	....	.....	366	178,268	....	.....
Stormont, Dundas, and Glengarry	260	87,182	20	11,492	154	47,131	8	1,153
Thunder Bay	57	44,508	5	1,725	15	2,540	2	225
Victoria	230	101,918	1	800	174	68,803	....	.....
Waterloo	239	155,485	1	7,000	61	43,310	....	.....
Welland	250	108,226	1	3,000	88	17,829	....	.....
Wellington	327	209,236	....	.....	146	88,845	....	.....
Wentworth	799	357,542	7	10,309	146	65,355	2	933
York	2,393	1,291,643	7	13,400	258	135,846	....	.....
Total	17,321	11,669,806	307	499,184	8,440	3,110,543	121	30,840
The Province:								
1899	18,216	11,067,664	291	324,628	9,392	2,988,853	124	34,798
1898	19,526	12,001,075	283	281,142	10,514	3,547,554	117	32,943
1897	21,144	13,004,342	382	377,853	11,902	3,889,190	201	44,410
1896	21,402	13,180,205	387	381,511	11,638	3,826,582	206	51,416
1895	22,018	10,585,922	373	456,398	12,121	3,711,338	167	56,258
1894	21,276	10,603,393	483	616,812	11,447	3,378,079	240	68,805
1893	19,342	8,973,118	380	360,267	10,489	3,003,109	195	56,748
1892	18,927	9,215,753	455	829,724	10,576	3,062,349	198	55,628
1891	18,902	8,595,417	516	908,971	10,748	3,035,342	241	62,259

* The figures for Northumberland and Durham and for Ontario are taken from the report for 1899 as the returns for 1900 have not been received for these counties up to October 1st.

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FIFTH ANNUAL REPORT

OF THE

COMMISSIONER OF HIGHWAYS

ONTARIO

1900.

(PUBLISHED BY THE ONTARIO DEPARTMENT OF PUBLIC WORKS.

PRINTED BY ORDER OF

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1901.

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TORONTO.

FIFTH ANNUAL REPORT

OF THE

COMMISSIONER OF HIGHWAYS

1900.

To the Honorable F. R. Latchford,
Commissioner of Public Works.

Sir,—I have the honor to submit to yon the following report for the year 1900 being my fifth annual report on Road and Street Improvement in Ontario.

I have the honor to be, Sir,
Your obedient servant,

A. W. CAMPBELL,
Commissioner of Highways,

Parliament Buildings,
Toronto, Ontario, 28th Feb., 1901.

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PROVINCIAL CO-OPERATION.

Good roads are essential to the full development of agriculture. In a country such as Ontario, dependent upon agriculture, this means that good roads are of very great importance to the towns and cities as well. The towns have been created by the country, and as the country prospers so will the towns progress. Good roads are not a benefit to any one class of the community. They are of universal value. This is a matter of which too narrow a view has been taken in Ontario. If we must have canals and railways, then we must have good country roads. It has been taken for granted that if the country as a whole constructed canals and subsidized railways, the common roads could take care of themselves. But this has not been the case. The country roads of Ontario are in a deplorable condition, at certain seasons of the year actually impassible as avenues of trade.

From their own point of view, the farmers of Ontario are becoming keenly alive to the situation. That the roads of the Province are not by any means in a satisfactory condition is well recognized That the system of management which has prevailed is largely responsible for this is also well understood.

With them the question is not, as a rule, one of proving that the roads are bad, nor that the system of building and maintaining them is defective. That part of the good roads agitation has been largely accomplished. The chief task now consists in getting the people to thoroughly understand the new systems of management which are proposed in place of the old. The more progressive citizens in every township who have studied the question of road reform are anxious for a change. The obstacle lies with the many who are not acquainted with plans proposed, and whom, for various causes, it is difficult to reach with a fair explanation.

The broader aspect of the question has recently been given prominence by the decision of the Provincial Government to appropriate $1,000,000 for road improvement. This, for lack of a better name, has been termed Government "aid" or "assistance." This is unfair both to the reason for the appropriation and to those who receive it. It is a recognition of the value of good roads to every citizen of the country, and a just effort on the part of the Government to co-operate in procuring them.

The object of the present measure is not so much to aid by the gratuitous distributing of money, but has for its aim a nobler purpose. While it aims to encourage the doing of a work which is acknowledged by all as being an important and necessary service, its prime object is to equalize and lighten the cost. The unfairness and injustice of the present system of taxation for highway construction is so noticeable as to be a matter of wonderment that some step of this kind has not been, ere this, devised by government, or compelled by the people.

In the early history of the country before the era of railways, when long distances had to be travelled by highway, when the people could not afford to build good roads, and when some improvement was necessary to carry on the business of the country, turn-pike companies were formed, and leading lines of highway in every part of the Province were improved by them. These companies were permitted to toll or charge every individual using the road. In this way those who used the road paid for the road. This plan was, and is to-day, in the minds of many people, a correct system and it is a popular phrase that "those who use the roads should pay for maintaining them."

This system, through restriction, annoyance and inconvenience, is very objectionable. In addition it is very unfair in this, that the roads of the country are an indispensable public service, a benefit to every citizen, whether a direct user of the road or not, and consequently should be maintained by a universal tax. The latter method has found general acceptance in this country. In many sections the private companies have been completely dissolved and the tolls abolished. Few still remain, and would long since have disappeared were it not for their peculiar location, and the difficulty encountered in arraying an entire municipality against an isolated road. There is also the objection to providing what seems a large sum of money for an apparently dilapidated work.

The object of doing away with toll roads is to distribute the cost of maintenance, yet by dividing the work up into small areas such as townships, making in the older part of Ontario 500 different sections, each to maintain the work within their own limits at their own cost, regardless of location, area, population, character of traffic, and purposes for which the roads are used, it makes this general distribution so unfair as to discourage any extended effort to accomplish this work. It permits many of the largest users to go practically free.

Under the present system of free roads, municipalities, whether city, town or township, are supposed to maintain the roads within their limits. Were the traffic of a purely local nature, such a plan would be sufficient and equitable, but drawn as it is from different sections and concentrated on certain lines by various attractions, very often certain townships have to contribute as much to provide for foreign travel as for their own. It is the business of towns and cities to draw from the largest possible area, with the result that townships near these centres are unduly taxed. The larger the city, the greater the attraction and the greater the burden imposed upon the different townships in the area within which an influence is exerted upon traffic. The smaller cities exert an influence in the particular section surrounding them, in many cases extending over half a dozen counties. But being distributed over the Province they make up an influence similiar to the larger centres of population. Separated from counties, however, and without representation in the county council, they are all free from any form of taxation for rural roads.

This influence is not confined to an area immediately surrounding the city, where vehicles are used entirely in response to that direct influence ; but the goods, the wares, and the products of the industries of the city are carried by rail and other means to distributing points where this influence is again exercised. In this way large companies, whose property lies within one municipality, are taxed only in that municipality, whereas many of them have an army of agents throughout the Province using every road in the different townships, soliciting sales and distributing goods.

In years gone by, shops and factories for doing all necessary work were generally found within each county. In this way, a system of county taxation was all that was required to reach everyone. But to-day business and manufacturing is concentrated and monopolized. Large industries and private corporations do not confine their operation to their own locality but make general use of the Province. If a system of toll roads were maintained, these people or their agents would be taxed wherever they went. But without a system of toll roads they go practically free, and only a system of Provincial appropriation can in any way reach them.

With a Provincial system, and the money fairly distributed among the municipalities, this injustice would be remedied and the large centres drawing revenue from the whole area would be asked to return some of their profits to aid in maintaining every road over which their products are drawn. Manufacturers of agricultural implements use every road in the Province in soliciting orders and distributing their goods Wholesalers of small wares have wagons covering immense areas, often the whole Province. Advertising agents, medicine agents, sewing machine, piano and organ agents, collecting agencies, pork packers, buyers of live stock, and many others make up a large percentage of those travelling on the roads.

As a general thing the influence of towns is restricted to the county in which they are located, but the same kind of influence is exerted and the same use of roads made by the lesser place as by the larger. The same principle of levying the cost should, therefore, be adopted, with this difference, that the one covers the entire Province, the other the county only.

The indirect use of the roads by the cities arises from the fact that while the farmer uses the road to haul his produce to the market town, he goes there quite as much for the purpose of taking back with him the goods which he purchases from the merchant. If it is necessary for the farmer to drive to the town it is equally necessary for the town that the farmer should go to it. If the farmer did not go to the town, it would be necessary for the merchants to put their goods into wagons and go around the country; it would be necessary for grain merchants to provide teams and wagons to haul to the station the food supply of the world. That this is not the case arises mainly from the fact that the farmer has horses and wagons for use on his farm which he can use on the roads. By collecting merchandise at central fixed points, the farmer knows where to go when he needs goods, he can get a better selection than from the itinerant merchant, and he can transact his business to better advantage. These circumstances are determined by convenience, not because the farmer needs country roads any more than does the town. If the farmer did not come to the merchant the merchant would have to go to the farmer.

The town that exerts an influence over the trade in the county attracts the people from the different sections causing those of one township to travel through another, and the trend of traffic being in the same direction imposes a heavy burden on the township adjacent to the town for the maintenance of the main roads. Whereas if a county system of taxation was provided for making and maintaining the main thoroughfares the tax would be equally levied against all the users of the road. The townships now heavily taxed would be relieved of an unfair burden, while the outlying townships would pay for the use of the roads which they help to destroy. With a county system of taxation for keeping up these main arteries, justly apportioning the cost, it would not then be difficult for each township to keep up the lateral roads of township importance only. By a provincial system, a county system and a township system, every one benefited by the roads would be reached and made to contribute a share, while the administration, being more perfect, would result in better work.

Good roads at all seasons of the year facilitate trade. Easy, uninterrupted communication is at the basis of commerce. Good roads are not merely the arteries of trade, but they furnish health and strength to the country they traverse. To all, to every citizen they are a benefit; they are used directly or indirectly by all; and they should in some way be paid for by all.

Road construction is a great and expensive public work, in need of all the assistance to which it is entitled, and by a provincial grant only can the large towns and cities be reached. The principle of state aid or co-operation in this matter is recognized in most European countries. It is being adopted in the States, and Massachusetts, New Jersey, Connecticut, Rhode Island, Vermont, New York, and others in this way levy a portion of the cost upon all.

The Government is then only exercising its rightful function as a part of the administrative system in providing a portion of the cost of making roads and distributing the money among the different municipalities entitled to it. This function can be performed by the Provincial Government only.

In States of the American Union where this plan is adopted a direct tax is imposed and collected annually. Where this is done some opposition is encountered from the cities and towns, and from those now made to pay who formerly escaped this tax. Fortunately, in Ontario, from the natural resources of the Province sufficient surplus funds have been provided to permit this appropriation, and all that is asked of the people of the cities and towns is to forego their claim and allow the funds to be diverted for the making of good country roads.

ROADS AND AGRICULTURE.

A good road is not a luxury. The road over which a load of farm produce passes is just as necessary as the wagon which holds the load or the horses which draw it. "The road" the opponent of road reform will argue, "need not necessarily be a good one. A track through the fields would serve." On the same principle the wagon, horses, harness, need not be good. To follow the argument to a conclusion, they are not needed at all, since it would be cheaper to use a wheelbarrow, thereby saving the purchase of wagon, horses and harness. Bad roads are cheaper than good roads in just the same way that a wheelbarrow is cheaper than a wagon and a team of horses. If it pays to buy wagons, horses and harness it will pay to build good roads. The road is a part of the farm machinery just as much as is any other implement the farmer uses. Bad roads should be relegated to the age of primitive field culture. We are living in the days of self-binders and steam threshers and we trust it will soon be the period of good roads.

For cities, towns and townships bad roads are a great evil. The farmer, however, feels the influence most directly, interfering as they do with all his social and business relations. During certain seasons of the year he is isolated, in a measure, even from his nearest neighbor. He cannot attend church, nor the public meeting, his children cannot reach the school, with the result that farming is generally regarded as dull and monotonous. Very much has been said, for a number of years, of the undeveloped resources of Canada, and the need of action in this regard. So long, however, as the roads of this country remain in their present condition, we need not go to Northern Ontario, nor Ungava to find resources that are not developed. Surrounding us and at our very doors are farm lands yielding but a moiety of their hidden wealth. Bad roads are not solely responsible but they are a factor, a very powerful factor, in locking up the riches of the farms.

The farmers realize, and they do not realize the importance of roads. That they realize it is evidenced by the fact that in the ten years, 1887 96, there was spent on roads by township and county councils, according to the reports of the Ontario Bureau of Industries, nearly ten million dollars. In addition to this, there is placed on the roads eleven million days of statute labor—the united money and labor having a total value of twenty-one million dollars.

On the other hand, this energy is spent with little forethought, without system, as is evidenced by the condition of the roads. It is scattered and misapplied, and lends emphasis to the statement that the value of good roads is not sufficiently realized by the majority of the people of the country.

The bettering of the country roads, while of as universal importance as railways or canals, must be looked at, in the main, from the farmer's standpoint. To be able to haul a fair load in all reasonable weather, to be able to drive out on business whenever necessary, on roads that permit travelling at a fair speed, are no doubt the chief requirements of the Ontario farmer. This means that we need a distinct class of road suited to the requirements of traffic. We do not need English roads, nor French roads, nor the roads of Massachusetts. Ontario roads are needed, such as are suited to moderate travel and a not thickly congregated population.

It is not proposed that an expensive plan of construction should be undertaken. From the figures quoted above, it is evident that a considerable expenditure is already placed on the roads. What is needed more than additional expenditure is that we make the best use of the annual expenditure now being made.

The total production of Ontario farms has a value annually, it is estimated, of $200,000,000. All this must first pass over the common highways before reaching the markets. It is the basis of Ontario's wealth. The amount is far in excess of that needed for home consumption, and the only resource is to obtain a market in foreign countries. This market is available only so far as we can sell more cheaply and produce a better quality than other competing countries.

Bad roads, whether dusty, muddy, rough, or from any cause heavy, change what should be one of the advantages of farm life into one of its most disagreeable features. It is the reason why so many of the brightest of the younger generation press into the towns and cities in order to escape the dullness of the country. What should be one of the

greatest pleasures of country life, driving and travel, remains as one of its most serious drawbacks—bad roads.

Farming is a business which can be carried on as successfully and in as intelligent a manner as the industries of the towns and cities, but the difficulties of travel repel rather than attract. Distance does not constitute the difficulty. It is absence of proper means to overcome it. With good roads the agricultural community will discover a means of attracting rather than repelling population.

No farming country ever had a good appearance however fertile and productive, when looked at from a road that is rough or dusty, or a river of mud. Appearance even in farm lands is of as much importance as in a house or carriage. It is a well known fact that a properly designed street transforms the appearance of city property, and greatly increases the value. A good appearance is a source of pleasure to the owner and a good many dollars in the eyes of the purchaser. Good roads affect the appearance of farm land in a way that is startling, and those who have any doubt of the matter cannot do better than make the experiment. When a bad road is made good, those who use it have an opportunity to turn their eyes away from ruts and mud, to look at features of far greater attractiveness, which no locality of Ontario is without.

This increase in the value of property arises, too, from the greater profits accruing as the result of the saving in the cost of transporting farm produce. There are many ways of rendering a business more profitable. One is by decreasing the cost of production. Cheaper transportation by means of good roads, means, in effect, that the cost of production and the consequent increase of profit will guarantee a larger and readier investment in the farm.

The value of the farm is further enhanced by the increased opportunities that arise through good roads. The farmer is not impeded in any season of the year in the sale of his produce, and can in consequence reach the market when prices are highest. Perishable produce, fruit, certain vegetables, milk, are articles which, if they cannot be taken to the consumer in the town or city with the least possible delay, become unsaleable, or can be disposed of only at a reduced price. Good roads bring farm lands ten, twenty, forty miles away, into available distance of a city market, whereas on the other hand one mile of really bad road may render otherwise fertile land useless. Distance with respect to the farmer and the market is not measured by miles so much as by the time and labor it takes to transport his produce.

Among other branches of agriculture which demand good roads, dairying may be referred to as a specific instance. Cheesemakers tell us that in order to secure the best quality of cheese the milk should be transferred to the factory as quickly as possible, with the least possible amount of jolting, and that the cheese should be manufactured in large quantities. The effect of changing the road from bad to good in a dairying district is at once plain. The milk is carried over smooth roads expeditiously from the dairy to the factory with the least possible exposure to the sun and least amount of churning in transit. The milk can be drawn from a larger area, the cheese made in larger quantities, factories are fewer but larger, and manufacturing expenses thereby reduced, while a more uniform quality of cheese is produced.

There is difficulty in arriving at exact conclusions with regard to the economic value of good roads, because of the absence of complete and reliable data. There are impediments to our reaching a complete solution in the fact that the different benefits of good roads will combine, act and react upon one another so as to materially alter relative conditions. Ease of traction, long hauls, more rapid travel, fewer horses, saving in wagons, harness and horseflesh; increased rural population, less congestion in the cities, increased land values, greater profits on the farm, better business and social facilities, will all unite toward the one end in enabling us to live well and more wisely. The people of the American continent have, to an abnormal extent, turned for their ideals to city life. The greatest ultimate benefit which good roads can confer is to bring us back from the towns which men have made, where brick walls, stone pavements and odors of filth have shut out our remembrance of field, forest, stream, sky and nature's God—this is not the least desirable of economic results.

THE TOWNSHIP ROAD SYSTEM.

The demand for meetings in the interest of road improvement, as with previous years, continues to be very great This, together with the circulation of literature in various forms, has been the means of carrying on the agitation for road reform since the matter was first taken up by the Government. On the request of township and county councils and boards of trade, 143 meetings were addressed during the year by the Commissioner of Highways. As a rule, at least two meetings are held when thus visiting a township, one in the afternoon, and another in the evening of the day appointed, at different points throughout the township. The influence of these meetings is very marked in bringing the subject clearly before the people in a way that localizes the question, overcomes much of the popular misconception as to the objects of road reform, and arouses active interest and enthusiasm.

The following is the text of an address delivered in Goulbourne township (where statute labor has since been commuted), as reported by the Ottawa Valley Journal. As Goulbourne is a typical township of the Province, much that was said is applicable to other municipalities.

"Mr. Chairman and Gentlemen,—I assure you it affords me great pleasure to find myself back in Carleton county again within less than a year from the time of my first visit and to again have the privilege of discussing with you the subject of good roads.

"It is not my desire to dictate any particular method that you should adopt but simply to discuss with you the possibility of making an improvement in your present system and to point out its weak points, if there are any.

"I have found in many sections where I have been, an unfortunate impression held by some men that it is my duty to attack and if possible destroy the present system of statute labor.

"This, I assure you, is not the case. In fact there are many men in every locality where I speak who say worse things against statute labor than I would dare or even think of doing.

"In the many years' experience I have had in road-making I have fully realized the many great difficulties to be contended with in the building and maintaining of your public roads.

Suggests, Only.

"My only desire, therefore, is to try to suggest some more uniform system of road management that will redound to the general advantage of the community. You will all, I am sure, admit that a system that is most unfair to many, is wrong. Yet, do not think for a moment that I am here to ask for any radical change.

"I think that every ratepayer who has studied the question of road management will agree with me that we have neither money nor time to throw away on our roads. There are, of course, in every section, men who will immediately object and endeavor to make it unpleasant for any one who suggests changes in the systems that were used by our forefathers.

"Your chairman has referred to the fact that I am an engineer. The experience I have gained in road-making has been much greater than I could have secured simply as an engineer. This experience is the result of twelve years spent in the actual construction of roads from those used in the backwoods to the asphalt pavements of our cities.

"I am here, therefore, gentlemen, not as a theorist but to tell you of my own practical experience in road-making. I have seen how the introduction of improved machinery has not only made roads better, but also reduced the cost of construction, resulting in a great improvement upon anything we were ever able to do by the old methods.

The Present System.

"The system of road management in force in your township is the same as is in vogue in many other sections, that is, the statute labor system whereby so many days of labor are taxed against each property holder according to the value of his property, the labor being performed under the direction of pathmasters. Many are deceived, however,

in believing that the roads are made and maintained by statute labor alone. This is not the case. In addition to statute labor the municipal council appropriates considerable amounts from the general funds of the municipality annually and spends it on bridges, culverts and general jobbing such as grading, graveling and similar work.

"This appropriation appears to be absolutely necessary in order to keep the roads in passable condition, which the statute labor as performed does not appear to do.

Some Statistics.

"An examination of your township records shows me that during the past year you have put 2,528 days of statute labor and $1,150 in cash on your roads. During the past ten years 25,280 days of labor and $11,432 have been expended. Therefore you have spent on your roads during the past ten years $36,012, or its equivalent.

"That, as you must admit, is a very large expenditure and should, if properly expended, have permanently macadamized one-third of your roads.

"Has this been done?

"If not there must be something wrong with your system. It should be discussed by the ratepayers, and so remedied that whatever expenditure is made will provide its full value in improvement on your roads.

"Instead of being willing to discuss this matter in a friendly and honest way, some people become angry at the idea of our even attempting to fairly discuss statute labor or consider its defects or merits.

"The statute labor system is simply a certain form of taxation which should be collected or expended as fully and as fairly as any other tax, and if some are obliged to discharge this tax faithfully and well, or do so of their own will, this system should be such as to oblige all others to do the same.

"In connection with all other expenditures the ratepayers at the polls want to know exactly what has been done with the money, and every expenditure is criticized to the minutest detail. But in this, while many do their work properly and well, a considerable part of the labor is not performed; more is done in a half-spirited manner, and much is absolutely wasted. Often the money is misapplied, being scattered in small amounts for temporary work, which is little better than burying it in the mud.

Too Many Divisions.

"In this township I find you have 62 road divisions with a pathmaster on each. Many of these are no doubt capable men who have had much experience, and know a great deal about road building. Many of them take a warm interest in the work, and are surrounded by men who are anxious to improve their roads as honestly and as faithfully as if they were being paid for their services. These beats you will find in very good condition, but unfortunately for the roads and the people of the township, they are few in number.

Waste Their Time.

"Many pathmasters and many beats idle away their time and do little with their statute labor to improve their roads. They sit on the bank of the ditch talking politics and other matters foreign to the work in hand, believing they are working for the Queen and therefore should be allowed to have a fairly good time.

"It is on such beats the worst roads are found, and rightfully so, because they have done nothing to make them good.

Ask for Money.

"And further, experienced councillors know that these are the men who complain most of the condition of the roads and who constantly wait in deputations on the council begging for appropriations of money from the municipal treasury, a part of your taxes, to do work which they in fairness to the rest of you should have done with their own statute labor.

"This is become a great drain on the municipal funds and is one of the greatest injustices of the system, in that, while it is permitted, it places a premium on indolence, and doubly taxes those who, on their own beats, do their statute labor honestly and well.

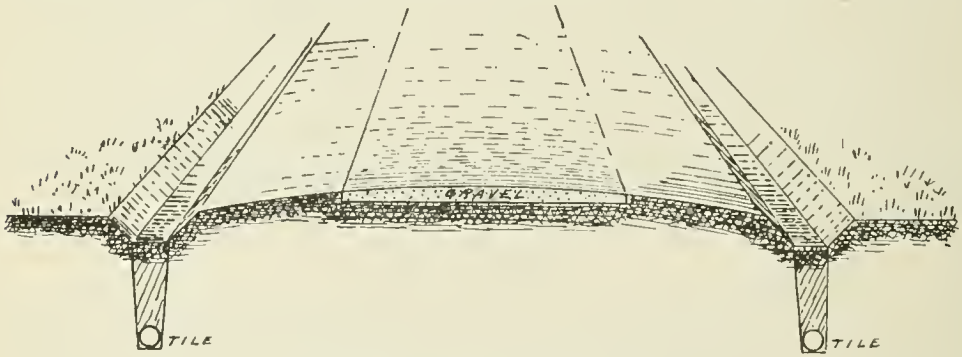
A Large Amount.

"The amount of energy appropriated in this way in the province is now equal to about $3,500,000 annually, and to you who think you are keeping up your roads by statute labor alone this must be a matter of surprise. The money thus given out on the basis, and as a part of the statute labor system, makes the system most unjust, unfair and at the same time the most incompetent that can be found.

"It makes no difference to me personally whether you abolish the statute labor system or not, but I would ask you as ratepayers to look carefully into your expenditure, examine your books and system, compare the results with the expenditure, and see whether or not you are treating fairly a system of which we will all confess, that in the early days, when it could be properly utilized, it did much for this country—in fact performed a work which could not have been performed, owing to our conditions, by any other method.

The System was of Service.

"Statute labor was properly performed and the system rightly administered in the days when the early settlers had to cut down the trees, grub the stumps, corduroy the swamps and bridge the streams by their own labor, and without the assistance of one dollar from a council. They united their forces, concentrated their efforts under one man, who acted as foreman and who was selected for his ability. They commenced at one point and went as far as they could that year, volunteering not only days but weeks, and repeated this each year, accomplishing wonderful results.



"For the Average Country Road."

"They cleared the allowances and did most of the grading that now exists even in this township. Now with this work done and all our increased ability and knowledge, assisted by large appropriations of money, we are simply hauling a little gravel, raking and scraping the mud (doing this as nearly as possible in front of our own farms), and scattering the forces and expenditure; doing the work without rule or reason, system or method, in a shiftless and indifferent way, each exercising his own judgment, each expressing a different opinion, and all joining in most carefully frittering away time, money and opportunity, and in a hopeless way asking what it will cost per mile to finish the work so nobly begun, and where will we get the money.

Their Good Example.

"If our forefathers had asked this question: 'What will it cost to cut the trees, grub the stumps, corduroy the swamps? Where will we get the money?' This country would still be a wilderness and we would have no roads.

"They realized, however, that the making of roads was a duty imposed upon them, that a certain amount must be done each year, and the question asked was, 'How can we best unite our forces and expenditure and accomplish this?' The zeal, effort and determination displayed by them, and the ends reached, should put the people of the present time to blush when they realize how little they are doing and what little improvement they are making.

First Mistake.

"Where we commenced to violate the principles of the statute labor system was in doubling and then multiplying the pathmasters and scattering the forces. This has been done to such an extent that to-day your 2,600 days of statute labor are divided among 62 sections, each pathmaster being surrounded by only a few neighbors, each with a few days' work, and with this he is asked to make and keep up a couple of miles of road. The result is that all he can do is to fill up some ruts and holes, do a little grading and, where pits are near by, haul a few loads of gravel. It matters not how indifferent some of these neighbors may be or with what sized boxes or other implements they appear on the work or how little they do. Their pathmaster does not care to enforce faithful service for fear of offending his near neighbors.

Has Been Abused.

"In this way the system has been abused to such an extent that those who are the loudest in praise of the statute labor system are after all its greatest enemies. Let us like men admit this; let us do honor to the statute labor system by giving it credit for what it has so nobly performed, relieve it from further injustice, and not ask it to perform work for which it was never designed. Let us adopt a system comprising business principles, which will meet changed conditions, which will be suited to present requirements and carry on the much needed work of finishing our roads.

A Poor Method.

"The present plan of job work is very shiftless and runs away with a large amount of money annually.

"The lazy fellows, who have done little or nothing with their statute labor, come to the council begging for appropriations of $25 and similar sums. If the whole of this amount can not be given, one half or one quarter will possibly satisfy the receiver, but the expenditure returns no benefit to the tax payer.

The New System.

"In framing a new system it is impossible for us to give the details too much thought, so planning them as to serve, to the best advantage, every part of the township. Every section should be considered. At present we are inclined to consider only the section on which we work and we take no interest in any other. Those who do their work fully and well are obliged to suffer to the fullest extent in having to drive over beats that have been neglected and are bad. In measuring the value of the present system it should not be considered from the standpoint of the best section, but of the poorest. The system must be so complete as to cover the whole township. At present we have no system, no plans. We do not know what is to be undertaken nor what to expect as the result of the year's work. The work is being done now without rule, reason or design.

In our private business even if we are only undertaking the building of a stable we first make a rough plan or sketch showing the dimensions, material to be used, what it will cost and about what to expect when the work is finished.

"But in the question of roads, the most important work in the township, involving, as shown by your books, an expenditure of thousands of days of labor and a similar amount of money annually, it is being done without any definite consideration, plans or specifications.

How it is Now Done.

"At the beginning of the year sixty-two pathmasters are appointed in Goulbourne to have charge of the work. You provide nothing for their guidance, give no instructions, but simply send them out to use their individual judgment as to how the work shall be done. As a result you have about as many different ideas of roadmaking as you have pathmasters. It is true the question of common country road-making does not

require much engineering skill or scientific knowledge. It is a simple problem involving the exercise of practical experience and good judgment. Notwithstanding its apparent simplicity is it not surprising to what an extent even your best pathmasters differ as to how the work should be done? Is it not true that one believes that a road should be made 15 feet wide, another 20, another 24, another 30, another 40, while still another may believe in grading from fence to fence? Is it not true that these differences may be expressed along a piece of road requiring the same treatment, built under the same conditions and all done to meet the same requirements?

"Each year also sees a number of pathmasters changed and many new ideas produced, often resulting in one man's work being torn up the next year by a new pathmaster.

All Styles of Roads.

"One pathmaster believes in a flat road, the next in crowning it sufficiently to shed the water, while another believes in "heaping it up" and does so to a dangerous extent. These men may all be honest in their opinions, trying to do what in their judgment is best, but why should such a variety of work be permitted? Why not lay down one plan to regulate the width of the grading, crowning, etc., and classify these roads according to their importance?

Prepare a Plan.

"Let the township council prepare a plan of the township showing all the roads and classifying them according to their importance. About one-third are leading roads used by the whole community, Another third are lateral roads used only by a neighborhood. The remainder are back concession or division line roads used only by one or two farms to reach the other roads.

"It is extravagance to expect that the same treatment should be given to each class of road.

"After classifying, determine the width of grade. Main roads should be graded to 24 feet between the ditches, the second class 20 feet and the third 18 feet.

"This is a plan which is being followed by a large number of townships in the Province and gives entire satisfaction and should meet your approval.

The Crowning.

"Next, the crowning should be fixed and specified. An inch fall should be given to a foot in width from the centre to the side of the grade; and this should be uniform. This crowning should be done in the easiest, quickest and cheapest possible way, and should be done by the use of a grading machine. These machines are valuable implements, but many roads have been destroyed by their misuse.

Present Faulty Method.

"The plan followed by your township now is to place the machine at the disposal of the different pathmasters. Consequently it is employed all over the township, on the north side yesterday, on the east side to day, and often in another direction to-morrow.

"In this way much time is lost in moving from place to place. Teams are supplied by statute labor. Time is lost in collecting them and when they are collected, being inexperienced, the best results cannot be expected. The system should be changed.

The Money Should be Kept in each Division.

"All statute labor should be commuted at a fixed rate per day. The township should be divided into four divisions and the amount taxed against the land in each division should be spent in that division. Those wishing it, should be given an opportunity to work out an amount equal to their tax, if they will comply with proper regulations.

"All work should be done according to the plan laid down; commencing at certain points and being performed in a finished manner as far as the appropriation goes; and this work may be extended from year to year.

What is Proposed.

"Early in the spring the commissioner should go over the roads staking out the different sections to be graded and making a memorandum of each. This should be placed in the hands of the operator of the machine who should be empowered to employ three stout teams of horses to go constantly with it.

"As soon as the frost has left the ground, and it is sufficiently dry to permit proper working, the man with the machine should commence at a fixed point in the township, going over road after road, taking up the grading consecutively, thus not losing time unnecessarily in going from place to place.

"The benefit of experienced teams in this class of work can be readily appreciated by those who have had anything to do with such work. The machine should be kept constantly employed up to about the first of June, after which clay roads become too hard to grade. In five weeks' time from 25 to 30 miles of road can be graded at a cost of about $300. This money should be taken from the general appropriation now made for roads. The special road tax should be devoted entirely to hauling gravel.

Culverts are Costly.

"One of the greatest drains upon the municipal treasury is repairing and renewing culverts. There are hundreds of these in the township and about $800 per year is absorbed in their repairs. So long as timber is used for the purpose this amount will have to be raised annually.

"Timber is perishable, rots in a few years, and its use should be discontinued. When culverts are in natural watercourses they will always be required, and for that reason should be built of durable material. Concrete arches and concrete pipes should be used. If properly made and laid they are practically indestructible. They can be made for your own use in your own township.

How they are Made.

"Molds for making concrete pipes are simple affairs, made of spring steel, and can be secured at a foundry for from $8 to $18 according to size. The molds are composed of an outside casing resembling a stovepipe. They are two and a half feet in length, the inner one being less in diameter so as to leave a space between the two of about four and a half inches. These are set on end on a plank base, the smaller mold being inside the larger. The concrete is then mixed and while one man shovels it into the mold another with an iron rammer thoroughly rams it down until the casing is full. The clamps are then unloosened, the casing removed and the pipe left to set and dry. These pipes when properly made and laid in the culverts are permanent structures, not readily affected by frost, surplus water or weather.

"When this plan is adopted the number renewed each year will lessen the number to be made, and inside of a few years the present large item of expenditure for culverts will be largely removed from the municipal accounts. This plan is being followed as a general thing in numerous townships to day. In McGillivray they have been using pipes made by themselves for seven'een years. Now all their culverts are substantially built and the annual outlay for this work is much decreased.

The Plan Outlined.

"The plan, therefore, which I would recommend your township to adopt would begin with the commutation of statute labor. The township should be divided, for road purposes, into from two to four equal divisions. A commissioner should be appointed for each division, having control of all the roads in his division, including the boundary lines, and one half of the road lying between the divisions.

"These commissioners should be live and active men who have had some experience in handling men. They should be paid at the rate of $2.50 a day when a horse and buggy are needed for the work; and $1.50 a day when a horse and buggy are not required.

"They should receive their instructions from the Township Council, and should be employed for such time only as the Council thinks their services necessary.

"As far as possible the appropriation now made from the municipal funds on account of roads and bridges should be used in repairing bridges, culverts, screening gravel, and operating the grading machine. The fund created by the commutation of statute labor should be employed in hauling gravel. This should be done at a rate per cord, or job, let by public competition, and in such a manner as to allow as many of the rate-payers as may wish, to work out an amount equivalent to their tax, provided in all cases that they equip themselves with wagons and horses suited for such work.

"The amount of money collected in each section of the township should be returned to, and spent by the commissioner of that section, and the work of graveling should be done on such roads and at such points as will distribute it fairly, but at the same time concentrate it upon finished and durable work, rendering general service.

"The Council should prepare a plan of each division classifying the roads according to their importance, and specifying the width to which the roads should be graded, the amount of crown to be given to each, where the culverts should be placed, what material should be used in their construction, what depth and width of gravel should be placed on each road.

"Early in the spring it should be the duty of each commissioner to go over the roads in his division, study closely their condition, and determine what work is required on each. The pieces to be graded should be staked out in regular order and a list of the culverts to be constructed, repaired, or renewed, should be made. This information, together with the amount of gravel required in his division and on each piece of road, and an estimate of the cost of culverts, grading and graveling, should be laid before the Council in the form of a report, considered by them, and returned to the commissioner with the necessary authority to proceed with the work.

"The best available gravel pits should be purchased by the Council, and the commissioner instructed to have all surface earth stripped off before hauling is commenced. Where necessary, screens should be purchased, and the gravel screened before hauling to the road.

"Special attention should be paid to the drainage required, providing that side ditches and their outlets through adjoining property should be made as free as possible.

"One man should be employed to operate the grader. He should be a man accustomed to the use of machinery. He should be constantly employed while the machine is being used. The commissioner should be required to hire for constant use the necessary number of teams or a traction engine for operating. These teams should go with the grader continuously, as constant familiarity with the work will secure better service.

"As soon as the frost has left the ground and the roads are reasonably dry, the machine should be started. A plan of each road to be graded should be furnished the operator, and he should commence at a fixed point, grading piece after piece continuously, until all the work laid out has been gone over.

"Having the work staked out in advance, taking up the grading piece by piece, following one plan, will secure uniformity in width and crown, save loss of time in moving from one section to another, and will provide that the machine will be in constant use when the work can be most easily done. By using experienced teams and drivers a greater amount of work can be done with greater ease and perfection and at less expense. The grader should be employed continuously from the time the road is in fit condition in the spring until the full amount of grading has been gone over.

"Wherever culverts are being rebuilt, concrete pipe should be used. These pipes should be manufactured by the commissioner in most convenient gravel pits.

"The suggestions which I have laid before you this afternoon are not mere theory. They do not form an ideal plan which exists only in imagination. They are all matters which have been tested and tried by townships in Ontario, which have been proven a success by actual experience, and it is on this basis that I recommend them for your consideration."

STATUTE LABOUR.

The number of townships which have made a change in their system of road management by commuting or abolishing statute labor is steadily increasing. The number will be considerably augmented this year, but up to the present those which have made the alteration in whole or in part are :

Ameliasburg
Ancaster
Assiginack, Shegnandah and Bidwell
Blanshard
Barton
Binbrook
Burford
Bromley
Brant
Bertie
Bastard and Burgess
Clinton
Caledon
Carlow
Crosby N.
Dumfries S.
Fullarton
Goulbourne
Grimsby N.
Grimsby S.
Louth
Malden
Monaghan N.
Monck
Nelson
Niagara
Nissouri W.
Norwich S.
Orillia
Oxford E.
Pelham
Pelee Island
Pickering
Reach
Saltfleet
Sarawak
Stamford
Sydney
Springer
Toronto Gore
Tilbury North
Whitby
Winchester
Yonge and Escott Front
Zorra E.

Stature labor has been regarded as the main stay of road building in the Province for a century, and any suggestion of reform in this particular has, from the commencement of the good roads agitation, met with much prejudice and opposition. The tide is steadily turning, however, and the defects of statute labor as an efficient means of improving the roads, and as a just tax, are now very generally admitted. The obstacle to its removal in the majority of townships now, is not a belief in the value of statute labor, but the absence of a clear understanding as to the system which will take its place.

Township Reports.

The following are extracts from correspondence during the year with clerks of a number of townships, and are indicative of the growing feeling that a reform of the prevailing system of road management is desirable.

Goulbourne.—The plebiscite taken yesterday on the commutation of statute labor resulted in 274 votes in favor of commutation, and 220 against, giving a majority of 54 in favor of the by-law. I might state that the above majority would have been larger if there had been longer notice, and if the people generally had more definite explanation.

South Dumfries.—Re statute labor vote, question asked was, "Are you in favor of the commutation of statute labor in this municipality?" The result of vote is a small majority in favor—342 in favor and 297 against, with 30 rejected ballots, nearly all of which were blanks. St. George and Glenmorris, where Mr. Campbell addressed meetings, have given a pretty good vote in favor, and I think a majority of these are in favor of abolition.

Caledon.—The result of the statute labor plebiscite was :—For commutation 550 ; against commutation 494. As a rule the villages voted for and the rural districts (especially where roads are best) against the measure.

No scheme for keeping roads in repair was submitted to the electors, they being asked to vote simply for or against commutation, and some contended that before they would support the measure some well defined method of expending commutation money should be submitted.

One of the chief difficulties apparently was how to keep the roads open in winter, as the township is hilly and heavy snow drifts the rule in many parts of it.

It is the intention of the Council to invite Mr. Campbell, Road Commissioner, to hold a few meetings in the township, if he can make it convenient to do so, in order to educate the ratepayers.

West Nissouri.—The Municipal Council has passed a by-law abolishing statute labor in this township and fixed a rate of commutation in lieu thereof at fifty cents per day.

Whitby.—The by-law commuting statute labor was in operation for 1900. Some considerable opposition was expressed in some sections of the township because the Council made the change without consulting ratepayers by taking a vote. Some of the ratepayers contend that as much work was done under the old system as under the new (which perhaps was true in a few road divisions.) The matter was the principal theme of discussion at the last municipal election However, only one of the candidates declared himself opposed to the principle of the change and he was not elected. The Council intend to work under the commuted system this year. I think a large majority of our best ratepayers are in favor of continuing the commuted system if carried out in the best manner—a good deal depends on the detail. Opportunity should be given, I think, at first, to as many ratepayers as possible to take work on the roads, not letting too many large contracts. It was stated at nomination meeting (and not questioned) that as much good work had been done on roads during 1900 as had been done in 1899, and of similar character—no material difference in the matter of bridges and culverts. In 1899 there was expended in appropriation and statute labor (estimated at 75c. per day) $3,635 ; in 1900, appropriations and commutation, $2,545. I am convinced that if the Council is careful as to details, and keeping of small needed repairs properly looked after for two or three years, so that the effect of the change can be properly estimated, there will be comparatively no desire to return to the old method, and the result will be much better roads.

Carlow.—The Council of Carlow passed a by-law to abolish statute labor and to levy a rate of sixty cents per day for each day's labor on the roads. I do not know yet how it will work as it is hard to get a man who understands road-making in this back country. The rate or tax will raise about $300 for roads in the township.

Brant.—This municipality passed a by-law on the 20th day of August last abolishing the statute labor system as heretofore, and introduced a system of commutation at a fixed rate of 60 cents per day. This by law was to become operative when passed upon by the Council of 1901. The Council passed a by-law last week, February 9th, appointing Road Commissioners and defining their duties, etc. This by law is now in the hands of the printer.

Grantham.—The old system is still in operation, much to the dissatisfaction of the Council, as often, through the neglect of pathmasters, the labor is not performed when repairs on the road are very much needed.

Orford.—Our Council is hardly yet convinced that to abolish statute labor and collect a fee of even 50 cents poll tax would be advisable. We have adopted a hamlet by-law at that rate in our village. Last year was governed under it and I can hardly offer an opinion as to whether it worked beneficially or not as the pathmaster was opposed to it. I have been personally in favor of doing away with pathmasters and collecting a fee and allowing the money to be expended by the commissioners. We have had many warm debates over the matter. Our township is peculiarly adapted for both methods—in many places our roads are naturally good and require but little work, in others it is difficult to keep up the roads from the nature of the soil and scarcity of gravel. I hardly think that a majority of our Council is yet convinced that a change is necessary, though I think that legislation in that line would be more than majoritively popular throughout the Province.

Egremont.—We are plodding away in the old style still. We have the two opposing parties, viz., the old, wedded to their old way, and the young and more ambitious, anxious for reform. I purpose asking our Council to hold meetings throughout the township, say, in each school house, to educate the people and arouse their sympathy on this question of "Good Roads." I am satisfied it is only a matter of time, and short at that, when the present system will be completely abolished in Ontario. I distribute all the literature I get, and every opportunity I get I avail myself of it.

TOWNSEND —The feeling is steadily growing that a change in the statute labor system would be beneficial, and of great advantage in general, and the opinion seems to be that the government will have to take the initiative in the matter and pass a statute accordingly. My observation leads me to believe that not more than one half is accomplished under the present system of statute labor of what could be accomplished if the statute labor were commuted and money paid directly for work done.

SOUTH EASTHOPE.—There is a good deal of discussion going on and the question of roadmaking is becoming a live one throughout the township.

PITTSBURGH —The new Council of 1901 were speaking at the first meeting of taking the matter of the abolition of statute labor up this year. The Council last year, in addition to statute labor, gave a contract to crush and spread on the roads 500 cords of stone and made a new contract with the same person to crush 300 cords and spread same on the roads in 1901

PORTLAND —Unfortunately our township is still pursuing the old system of doing statute labor, which means a great loss to our township, as in my own opinion and that of others, better results would follow if the statute labor were abolished or commuted and the amount collected in the regular taxes and expended by a road commissioner or even the township Council. We would then have good roads, whereas now our roads are very often impassable. I wish our Government would take the matter up at this session of Parliament and enact some law like the one I have suggested. I congratulate you on the good work you are doing along this line.

DERBY —Quite a number of our up-to-date thinkers are anxious for a change in the statute labor, but the trouble is to get them to move in the matter. I am personally enthusiastic over it, and hope in the near future to see a complete revolution. We got a grader last year—which is a step in the right direction. Otherwise there is no change made in our system.

DAWN.—The statute labor system is very unsatisfactory. Out of 117 lists sent out to the overseers in 1900 fully one-third have not yet been returned. It is costing the township more each year to keep up the highways than it did ten years ago when over $1000 was commuted from the non-resident collectors' roll, and now the commutation from that source does not exceed $100 per annum, and fully more than 1000 days' work is *supposed* to be put in on the roads, under the system.

OPS.—Ops Council seem satisfied with the work done under the present system and have not yet any intention of abolishing it. In 1899, to which you refer, the number of days statute labor on Ops' Roll was 2861, all of which were reported as faithfully performed, except 52½, and those were charged on the collector's roll at a dollar a day and collected. I think it is true to say that the statute labor in Ops has been more uniformly and systematically done in the last few years than formerly, owing perhaps partly to the suggestions given with the road lists, and partly to the many circulars, pamphlets and newspaper extracts emanating from your Department condemning careless roadwork

GLENELG —No change in our system of roadmaking has yet taken place here, excepting that councils pay more attention to appointments of pathmasters, and endeavor in all cases to get the best men to act. Many of the ratepayers who have given the matter serious thought would hail some reasonable system of commuting statute labor.

SYDENHAM.—No change has been made in performing statute labor in this township. There will be no change made this year that I am aware of. I think the ratepayers are not satisfied with the present system.

ERAMOSA —The statute labor system gives diminishing satisfaction each succeeding year; but our Council have made no change, nor is any change proposed this season. I heartily wish the law were amended so that councils in the older counties would have to pass a by-law to enjoy the privilege of statute labor. Councils are wanting in that prompt decision which is necessary to keep up with the times; there are always a sufficient number of fossils left to block every forward movement. The only plan is not to consult them. I believe a by-law to repeal the statute labor system would be easily carried in Eramosa.

MIDDLETON —I am afraid that if our Council wait until a majority of the ratepayers ask for a change in our system of statute labor we shall never have it. The present Council is desirous of a change in the system, but is a little, only a little, afraid to pass a by-law to abolish statute labor and keep up the roads by a rate on the dollar in its place.

MOORE —The matter of changes in the system of statute labor has been much talked about the past few years. Public opinion is divided, but no definite action taken. About ten years ago a vote was taken at the annual municipal election to ascertain the views of the electors on the subject, when a majority voted that the old system should be continued a few years longer.

MARYSBURGH, S.—I brought before the Council a communication received some time ago from the Department with respect to statute labor in the municipality and they talked very favorably with respect to the measure but took no action in the matter. I am satisfied that if the Government would do away with the present mode of road-making and adopt the measure that is in force in some of the municipalities it would be very satisfactory to this township.

BRANTFORD.—A by-law to abolish statute labor was submitted to the ratepayers at the last municipal elections and the same was defeated by 120 votes. I think the majority would have been very largely the other way had some proper scheme been submitted to the electors. The present statute labor system is certainly very unsatisfactory.

CRAMAHE.—I think our roads would be kept in better condition if commutation were in force Possibly the Township of Cramahe may take a vote on the question in the near future.

MONCK.—The Township of Monck intends to commute statute labor at 75c per day. We bought a road machine in 1900, and find that we have saved half the price of the machine in one year. In fact, the old system of statute labor will shortly be a thing of the past, and the sooner the better.

TUCKERSMITH.—The statute labor question is receiving considerable attention here, and although the old system is very unpopular with a large number of the ratepayers I think the people are hardly ripe for a decided move. Three neighboring townships voted on the question of abolishing statute labor at the last elections, and in each case the proposed change failed to carry. I consider that these failures are unfortunate for the movement and attribute the failure in each case to lack of effort and organization on the part of the councils and those who were in the initiative. I think that before a vote is taken on a question of this kind some plan should be adopted by the council, which should be discussed with the people at public meetings held for the purpose, and then, after all get an understanding of the new scheme, they would be in a position to vote intelligently on the matter. We in Tuckersmith are very fortunate in having good gravel in nearly all parts of the township and our roads will, I think, compare very favorably with those of any other township in Western Ontario. However, there is ample room for improvement. Our chief difficulties are "lack of proper drainage," "roads too flat" and "too many pathmasters," and consequently too many different ideas of road construction, and in many cases the best grades of gravel do not go to the road (it is a big temptation to many people to load the gravel that shovels easiest.)

PERRY.—The matter of a change in the statute labour system was brought before the ratepayers at the nomination meeting but nothing definite was arrived at then. The present Council would favor a change to commute and have the work done by appointing a commissioner to oversee the works. For my part I have advocated very strongly in favor of a change from the old system.

CHARLOTTEVILLE.—The matter is gaining about the township and much talked about, and feeling is getting up fast for a change.

SULLIVAN —There is a growing feeling that a change is needed in our statute labor system. Last year the Council made an effort to alter the old system by reducing the number of road divisions from 130 to 8 but it proved a failure and they had to fall back on the old plan This year the Council has decided to run in the old rut, but I am of opinion that if the advantages of the commutation system were thoroughly understood by the people it would be preferred to the old plan. Half-way measures are never satisfactory. I would hail with pleasure the day when statute labor was done away with.

SOUTH FREDERICKSBURGH—The Council has had the matter under consideration and I think they would be willing to abolish statute labor altogether if they were sure of some other plan that would work satisfactorily. I have advocated its abolition and the imposition of a tax in lieu thereof, believing that a tax of fifty cents per day if judiciously expended would keep the roads in better repair than the present system. The roads in this township are almot impassable in the spring, when the season is rainy.

HUNGERFORD—Statute labor is not giving satisfaction in the Township of Hungerford, but there is no change made by the Council. They often talk the matter over but that is as far as they have gone.

MCMURRICH—The present system is far from giving satisfaction, but nothing definite has been done to bring forward a change.

SCOTT.—A change for the better is much needed, more especially now that we have purchased a road grader, which will complicate matters so far as the equalization of labor is concerned.

MADOC—There has been no change made yet in our system of statute labor, nor has the Council proposed any change. The system will certainly be changed ere long as those most interested in our roads claim that more work would be done by ratepayers paying fifty cents per day than under the present system.

OSNABRUCK.—Statute labor system still in force and is working rather better than in 1899. Many of our best farmers and largest taxpayers are in favor of the abolition of the statute labor system.

USBORNE —Public opinion seems to have changed considerably in Usborne Township since a year ago. No change has as yet been made in the method of making and maintaining roads, except to purchase a road machine.

WILBERFORCE —No change from old statute labor system is yet initiated, although agitation for such change continues growing.

SOUTH WALSINGHAM.—The only change in statute labor is that in 1900 the rate per day was reduced from 75c to 50c per day. The result was that a large number preferred to pay. We purchased a grader last fall and it was the intention of the Council to do away with the old system, but it seems as though we will have to drag along in the old rut another year. Worked by statute labor the grader will not be much use to the township as the farmers say they will not put their teams on the grader for $1.00 per day. Our statute labor system is a perfect fraud and is getting worse every year.

WOODHOUSE —The number of divisions has been reduced from seventy-two to sixty. The statute labor now is apportioned by the assessor and the lists made by the clerk. Formerly each pathmaster brought the names of persons entitled to do statute labor to the meeting of Council and the members apportioned the work and made out the lists. The Council have tried to make pathmasters more interested in the roads. A road machine was purchased and I believe there has been an improvement. The chief source of dissatisfaction now is small culverts and ditches Pathmasters will not attend to them without money appropriations from Council. I think the number in favor of abolishing statute labor is increasing and I think it will not be many years until there will be a change worthy of the name.

COMMUTATION IN PELHAM.

A considerable number of township councils are now carefully considering the advisability of commuting statute labor, but hesitate lest the many benefits resulting will not be a sufficient refutation of the opposition such a reform naturally creates. Wherever a commutation system is wisely and courageously introduced there is no cause for delay. As showing the change which can be brought about by capable management, and what the effect will be where the council takes a genuine interest in planning the change, the report of Mr. J. C. Crow, Clerk of the Township of Pelham, is conclusive. We reprint also the by-law of Pelham, which has been very judiciously framed, and has been largely consulted in the preparation of the by-laws of other townships which have since commuted statute labor. Mr. Crow's communication regarding the operation of this by law is as follows :—

DEAR SIR,—No doubt you will be interested in hearing how the by-law commuting our statute road labor, and the council which passed it last spring, fared at the annual municipal elections a week ago.

You will perhaps remember that our council adopted the new system last Apri (after your visit here) without submitting the matter to the people. If it were necessary to seek a reason for the council taking upon itself the responsibility of making such an important change, one need go no further than to the preamble of the by-law itself which reads as follows:—

"Whereas the highways of this municipality have been maintained by statute labor performed thereon, supplemented by sufficient grants from the township levies to meet all the expenditure connected therewith;

"And whereas for several years an agitation has been gaining strength to have the statute labor commuted or paid in money, instead of worked out as heretofore by the ratepayers under the direction of pathmasters chosen for each road or locality;

"And whereas the ratepayers of the township, at a public meeting recently called by this council to discuss with the Good Roads Commissioner of the Province the advantages of the commutation system, did express themselves as desiring its adoption, and the council believes that better results would be possible if the change asked for were inaugurated, and the commutation moneys thus available judiciously expended where most needed, by one or two competent overseers to be placed in charge of all the public highways of the municipality;

"Be it therefore enacted, etc.. etc."

It is but just to one councillor, Mr. Brown, to say that while he personally favored commuting the labor, still he thought the by law ought to be submitted to the ratepayers for their approval, and moved a resolution to that effect but found himself alone in this view, getting no seconder. Mr. Brown then ceased all opposition and joined heartily with his colleagues to make the by-law as perfect as possible.

At a later stage, a petition came from Mr. Brown's neighborhood, bearing the signatures of 125 ratepayers praying the council "Not to pass a by-law affecting our present statute labor by law until council has taken vote of the people at the next municipal election." This petition had no weight with the council, probably because the petitioners, notwithstanding that *commutation* had been before the people of the township for three or four years, very carefully refrained from saying in their petition how they stood on the issue, or how they would vote in January if the council postponed action till then.

With this slight opposition, if such it may be called, the by-law was finally passed on the 4th April and the road work was placed in charge of two overseers instead of the 96 we had had the previous year, and a second road machine was bought. As was to be expected there were occasional grumblings from some disappointed petitioner or other ratepayer who was wedded to the old system, and now and then boasts would be heard that at the annual town meeting and election the new system and the commutation council would meet their doom.

On the other hand it was quite noticeable and frequently remarked, as the work progressed, that the new method was continually gaining friends. In the weeks just prior to the town meeting I heard numerous ratepayers whom I had not considered favorable to the commutation, frankly state that it could not be fairly judged by one season's experience, but was entitled to a couple of years' trial before its operation and advantages could be fairly measured.

Nevertheless we were all anxious to see what the town meeting would produce and what might be the feeling of the people as a whole. The weather was favorable and our large town hall, in which you spoke with such acceptance and good results last February, was well filled, evidencing a deep interest in the commutation by law, which of course was the chief subject talked about. The retiring councillors all declared themselves in favor of the new system and were all re-nominated. I am told they had agreed with each other to present a solid front and stand or fall together if the advocates of the old system forced the issue. But to our surprise, of the eight new men nominated all but one announced themselves as favoring commutation which thus at once ceased to be an issue, though we had the luxury of a contest—purely personal in its character and without any issue at stake that I could discover—Councillor Beckett at the last moment developing an unexpected desire to contest the reeveship with retiring Reeve Johnson.

The polling resulted in a decisive victory for the old reeve, while Mr. Brown, of whose caution I have spoken, headed the poll as councillor, both in the whole township and also in his own polling division whence had come the petition for delay to which reference has been made. The one anti-commutation candidate, who openly confessed himself as such and who went to the polls, stands at the bottom of the list, having received but 135 votes out of exactly 500 polled. The two new men elected are as strong for commutation as were the men whom they replace.

At the organization meeting of the new council yesterday the reeve in his inaugural speech pointed out to his colleagues how much the success or failure of the new system now depends upon the council and even more upon the commissioners. He handed copies of the by-law and of the *instructions* which were issued thereunder last year to the commissioners, to the members of council with the request that they study them carefully and be able to point out any desirable changes or improvements at the next meeting of council.

The idea we hit upon of making the by law itself quite general in its scope and provisions, and of annually issuing to the commissioners *instructions* as to details, seems to be a good one, as thus what at the beginning was to us a new and untried system will become perfected by our own experience.

We have cheerfully complied with many requests from outside municipalities for copies of our by-law, glad to know that the agitation for better roads was spreading, and we have noticed with especial pleasure the many kindly allusions to the by-law which you yourself have from time to time made in the public press. I have given as close attention as possible to the working of the by-law during its first season, besides enquiring from time to time of the commissioners as to whether it is feasible and workable, with the to me surprising result that no part of it is condemned. The changes required even in the instructions for 1901 will be minor at most.

To my mind the most noticeable advantage of the new system thus far is the uniformity of width of the roads graded and the evenness and straightness of the watercourses and ditches bounding them. The council laid down very definite instructions in both these particulars and they have been faithfully carried out by the commissioners, with the result that we already have many miles of road graded or rounded so that surface water cannot stand on them, ditched so that the water must run away, and withal so pleasing to the eye that comment is frequent both from our own people and travellers passing through. A couple of years more of like experience and our highways (we have about 150 miles of them in this little township five miles by nine) will hardly be recognized.

There was not as much gravel (of which we have abundance) hauled upon the roads as in former years, but this was because of the very sensible *instruction* of council to "Not gravel any roads until they have been properly graded and crowned, and side ditches made with sufficient fall and outlet to carry water off and keep the roadbed dry and firm."

From a dollars and cents standpoint: In 1899 besides the statute labor performed we raised by taxes and spent on our roads $950 03. In 1900 having the statute labor in cash we only required taxes of $779 78, thus saving more than half the price of the new road machine.

In 1899 the councillors' committee time (which is almost exclusively on R and B service) aggregated $86.25, while last year it was nearly as much, $73 50 But this is because the system, like the commissioners enforcing it, was new and untried, and also because members of council could not seem to relinquish to the commissioners the authority they have so long exercised upon the roads. I trust however that in future the councillors will have more confidence in the officers of their own choosing, and that there may not be this divided authority and jurisdiction, which I am glad to know you, on every occasion, warn municipalities against, and which cannot but militate against the success of the system

With best wishes to yourself personally as well as for the success of the good roads movement throughout the Province, for which you are doing so much.

I am, dear Sir,
Yours very truly,
(Sgd) J. C Crow,
Clerk, Township Pelham.

By-law to Commute the Statute Labor in the Township of Pelham.

PREAMBLE.

Whereas the highways of this municipality have been maintained by Statute Labor performed thereon, supplemented by sufficient grants from the township levies to meet all the expenditure connected therewith;

And whereas for several years an agitation has been gaining strength to have the Statute Labor commuted or paid in money, instead of worked out as heretofore by the ratepayers under the direction of pathmasters chosen for each road or locality;

And whereas the ratepayers of the township, at a public meeting recently called by this Council to discuss with the Good Roads Commissioner of the province the advantages of the commutation system, did express themselves as desiring its adoption, and the Council believes that better results would be possible if the change asked for were inaugurated, and the commutation moneys thus available judiciously expended where most needed by one or two competent overseers to be placed in charge of all the public highways of the municipality;

Be it therefore enacted by the Municipal Council of the Township of Pelham, and it is hereby enacted, as follows:—

ALL LABOR TO BE COMMUTED.

1. Upon, from and after the passing of this By-law all Statute Labor to which any person (resident or non-resident) may be liable in this municipality, shall be commuted at the fixed rate of fifty cents (50c) for each day's labor; and the amount of each person's commutation tax shall be added in a separate column opposite each person's name in the collector's roll, and shall be collected and accounted for like other taxes, and shall be kept by the treasurer in a separate account, to be known as "The Commuted Statute Labor Account."

TWO ROAD DIVISIONS ONLY.

2. The sub-division of the public highways of the township into ninety-eight Statute Labor Districts, as at present, is hereby abolished, and in lieu thereof the township shall be divided for road purposes into two districts or divisions only (to be as nearly equal as may be) to be known as North Division and South Division; North Division to comprise and include concessions one to seven, inclusive, and South Division the remaining concessions, eight to fourteen, inclusive. The west half of the concession line road which separates these two divisions shall belong to the South Division, and the east half to the North Division.

TWO ROAD COMMISSIONERS ONLY.

3. Over each of these two road divisions there shall be appointed a single overseer to be styled for the purposes of this by-law a "Road Commissioner," who shall hold office continuously during the pleasure of the Council, and who shall have the exclusive control and management of the maintenance, repair and improvement of all the public roads, streets, bridges and highways in his division, including the township boundary line roads bordering same, in so far as the commutation and other moneys belonging or appropriated to his division will enable him to do, subject always to such written instructions as he may from time to time receive from the Roads and Bridge Committee of his division.

GENERAL DUTIES OF ROAD COMMISSIONERS.

4. It shall be the duty of each of the two Road Commissioners who may be appointed to carry out the provisions of this by-law:

(1). To acquaint himself with the best and most modern methods of constructing and maintaining good roads, and of advantageously operating the tools and implements with which he may be supplied for that purpose;

(2) To employ, direct and discharge all men and teams he may require to carry on his work;

(3). To begin the annual labor as early in the spring of each year as the condition of the roads will permit, and work continuously till the appropriation to his division is, exhausted.

(4). To plane or scrape any of the roads in his division whenever in his judgment they may require it;

(5). To keep the bridges, sluices and ditches in his jurisdiction open and in repair, and the highways free from obstructions, at all times;

(6). To properly protect by railings or otherwise all pits, precipices, deep water, and other places dangerous to travel;

(7). To see that the provisions of the Act to prevent the spreading of thistles and noxious weeds upon highways and road allowances are carried out;

(8). To cause the roads within his division that are used by the public in winter to be made and kept open during the season of sleighing in each year;

(9) To crown or round the roadways in the centre so as to shed the water to the side ditches, the crown on level roads not to exceed one inch of raise to each foot of width from side to centre; and

(10) To perform such other services as may be required of him from time to time under the written instructions of the Road and Bridge Committee of his division.

COMMUTED LABOR TO BE SUPPLEMENTED FROM GENERAL FUNDS AS HERETOFORE.

5 All expenditure for road material, tools or machinery, or for jobs or contracts similar to what have hitherto been met out of the general funds of the municipality, shall continue to be met from the same source, to be still known as the Road and Bridge Account, leaving the commuted statute labor moneys of each year to be applied in that year exclusively toward the maintenance and repair of the highways of the township in place of the statute labor which has heretofore been used for that purpose. The total commutation moneys received shall be annually apportioned between and expended in the two road divisions established by this by-law upon the basis of the assessed value of the property in each division, as ascertained from the assessment roll of that year, and the treasurer shall charge each payment made by him to the fund and division to which same belongs as defined by this section.

PAYING FOR WORK DONE.

6 Each commissioner shall keep an accurate record of the men employed and the work done by him under this by-law, and he shall furnish to the reeve in such written form and at such intervals as his instructions may require, properly itemized statements made up from these records and duly certified by him, accompanied by any vouchers pertaining thereto. The reeve upon being satisfied of the correctness of such statements may issue his cheque upon the proper fund from which payment shall be made, as per section 5 above.

ROADWAYS.

7. In order to remedy the inequalities that at present exist throughout the township in the width of those portions of its highways which are intended respectively for the use of vehicles and of persons travelling on foot, it is hereby further enacted that hereafter the road commissioners in reconstructing or re-grading any highway shall aim at a uniform standard width of track or roadway for vehicles of not less than twenty nor more than twenty-eight feet (according to the importance of the road) in the centre of each highway between the inside edges of the side ditches, unless the confines or formation of the road is such as to justify a deviation from this rule.

GUTTERS.

8. Ditches or gutters shall be constructed to drain every highway immediately adjacent to and parallel with the travelled roadway, and separating same from the foot paths set apart by the next section. Every side ditch shall be of such width and depth as its capacity may require, and shall have an outlet to which the water will flow freely and not to be held to soak into and soften the foundation of the travelled roadway. The inside edges of all ditches shall be lined true and straight and the sides evenly sloped. Shoulders must not be allowed to form next to the roadway.

FOOTPATHS.

9. All those portions of every highway outside of the side ditches or both sides thereof (whether the ditches as at present constructed or as they will be when made in accordance with this by-law) shall be and the same are hereby set apart as footpaths or walks for the convenience or use of persons travelling on foot; and it shall not be lawful for any person to travel thereon on horseback or in wheeled vehicles drawn by beast of burden or propelled by steam or electricity, under a penalty of not less than one dollar, nor more than five dollars and costs, to be recovered before any Justice of the Peace in the county.

REMUNERATION OF COMMISSIONERS AND OTHERS

10. A day's work for all persons engaged by the commissioners under this by-law shall consist of ten hours faithful service, exclusive of the time spent going to and coming from work, but payment in all cases except upon job and contract work shall be by the hour. The remuneration to each of the two commissioners shall be fifteen cents for every hour necessarily devoted by him to his duties hereunder, and to the operators of the grading machines twelve and a half cents per hour; all others in the employ of the commissioners shall be paid such price per hour as may be agreed upon with the commissioner. The commissioners shall include a memo. of their own and their employees' time in the statements to be furnished to the reeve under section six above.

Chapter 474, the Statute Labor By law, and chapter 527, respecting Statute Labor in the Villages of Fenwick and Fonthill, and all other by-laws and resolutions of Council inconsistent herewith are hereby repealed.

Read a third time and finally passed in Council this fourth day of April, A.D. 1900.

(Sgd). J. C. CROW, Clerk. (Sgd). J. H. JOHNSON, Reeve.

Instructions to Pelham Road Commissioners for 1900.

The written instructions referred to in subsection 10, section 4, of the Pelham by-law are illustrated in the following, which has been issued to each of the two commissioners. It will be observed that these instructions may be very comprehensive, and as they are subject to constant revision, will become perfected by experience.

"The council trusts that you fully realize your responsibility in assuming the charge of the seventy-five miles or thereabouts of public roads in your division, which have heretofore been divided among half a hundred pathmasters. At the outset, it is quite apparent that the commutation system has at least one decided advantage over the system it supersedes, namely, that instead of distributing or scattering the labor annually as heretofore over all the roads of the municipality regardless of their condition or needs, with the result that none of them got enough labor to put them in really good condition, it will now be possible to concentrate the labor and apply it where most needed, thus bringing the roads up to a more uniform standard of excellence. At the same time it will be your duty neither to neglect any road nor to give any road more than its due share of attention. A good deal will depend upon your judgment in these particulars In addition to the general directions to you, contained in the commutation by-law, you will also observe and carry out the instructions below, which are issued to govern you for the year 1900, as provided by said by-law:

1. While the by-law requires all instructions to you from the Road and Bridge Committee to be in writing, that regulation is not intended to prevent you from consulting and advising with any member of the committee whenever you may desire to do so. The R. & B. Committees, as now re-organized for 1900 are as follows:

North Division, Reeve Johnson and Councillors Norris and Beckett.

South Division, Reeve Johnson and Councillors Ward and Brown. It will be your duty in letting any job or contract, the probable cost of which will exceed $10, to confer with the member of the committee living nearest to the job to be done.

2 In employing labor and letting contracts, you will divide the work as much as possible among those residents of the township who desire employment upon the roads, and who are in a position to do the work to your satisfaction, giving the preference to those living in the vicinity of the work to be done.

3 Let out all work by tender or job or day's work, as you think most prudent, contracts of $10 and upwards to be in writing, if required by the committee. Regulate the size of loads, the number of trips, the length of hauls, etc., as desired, and have gravel hauled by contract to be by the yard.

4. Keep the same operators and teams as far as possible upon the road machine throughout the season. In your absence leave the machine operator in charge of the work.

5. Appoint any foreman you may require in any locality to keep roads open in winter or supervise any work or take charge of any duty which you may think it wise or in the interests of the municipality for them to perform; report the names of any such to your R & B. Committee, and include their time in your statements to the reeve under section 6 of the by-law.

6. Keep enough commutation money back to repair roads, bridges and sluices, whenever signs of wear appear and to keep roads open in winter, and be punctual in repairing sudden breaches caused by freshets or floods.

7. Dispose of surface water in small quantities and by its natural outlet, and underdrain quicksand and soggy spots. Strike out all ditches or watercourses with a plow or other implement, so as to have the edges straight and in line, and so as to secure the standard width of roadway fixed by section 7 of the by law.

8 Don't work roads when they have been rendered unfit by protracted wet weather.

9. Do not gravel any roads until they have been properly graded and crowned, and side ditches made with sufficient fall and outlet to carry water off and keep the roadbed dry and firm. Use gravel of good, clean quality only, stripping, blasting and screening when necessary to obtain such. Be careful that the crown of roads you gravel does not exceed the limit fixed by the by-law (1 inch in 12), when the graveling is completed and rolled down. Make a depression in the crown for the gravel, if necessary, so that, when spread out, it will be of uniform width of 8 feet, and so that the crown of the road will be even and uniform.

Get gravel for the highways at Metler's hill, Fisher's hill, Clark's hill and Ridgeville hill, and from such other places as committee may direct.

10. Be careful, in planning the work to be done this year in your division, not to exceed the following estimate of commuted labor moneys to go to each division, viz.:

Total commutation moneys available estimated at $1,600, 43 per cent. of which, or $736, goes, under the by law, to North Division, and 54 per cent., or $864, to South Division, out of which keep back $25 in each division to repair sudden breaches and keep road open in winter. Do not omit to take into account the salaries or wages of the commissioners and operators and teams which are to be paid from those amounts under the by-law.

11. Report to your R. & B. Committee what shovels, picks and other tools and implements you may require, and take proper care of all implements, tools and machinery in your charge and have same housed when not in use.

12. Require from your employees ten hours as a day's work, but pay all at a rate per hour.

13 Get road plank at the most convenient places. Give vouchers or receipts for same in all cases Do not pay more than $18 per thousand for good, sound, white-oak plank, without permission of your committee.

14. Post up in conspicuous places in your division, copies of the commutation by-law in such printed form as they may be supplied to you.

15. Pay 25 cents per hour for teams to plow, scrape, etc.

16 Give the townline roads proper attention, and divide the territory with overseers of the other townships if you think desirable.

17. Give people, who have roadwork in arrear, the privilege of working same out at the old scale under your directions. Report to the clerk in August all who have not complied.

18. At least each month furnish to the reeve, upon forms to be supplied, the certified statements required by section 8 of the commutation by-law.

All of which is respectfully submitted.

.....
.....
} Road and Bridge Committee for.....Division.

Adopted this 13th April, 1900.

ROAD MACHINERY.

We are living in an age when economy of labor is being sought in every department of manufacture and construction. To enable one man to do the work of two by the use of labor saving machinery is the tendency of development in every department of labor. The use of machinery in road-making is assuming prominence, and as a result we are enabled to obtain not merely greater economy, but actually better and more finished work on the highways. Of these machines, road graders, wheeled scrapers, rock crushers, and rollers are the best known. The grader is the most universally useful of machines on country roads of cheaper construction. They are now very commonly employed throughout Ontario, about 265 townships at the present time reporting their use. They are essential for economical results in constructing and maintaining common dirt roads, in shaping and crowning them, and to a certain extent opening up drains at the roadside. In handling earth in the first construction of a common earth road, one grading machine, under favorable circumstances, will perform the work of fifty men.

There are limitations to the use of a grader. It will not work to advantage in excessively rocky sections, although few townships in Ontario are so situated that they cannot operate at least one grader to advantage. To obtain the best results from a grader, it should be put in operation as early in the spring as the condition of the ground will permit, and it should be operated continuously so that its work will be finished for the year before the ground is baked and hardened by the summer sun.

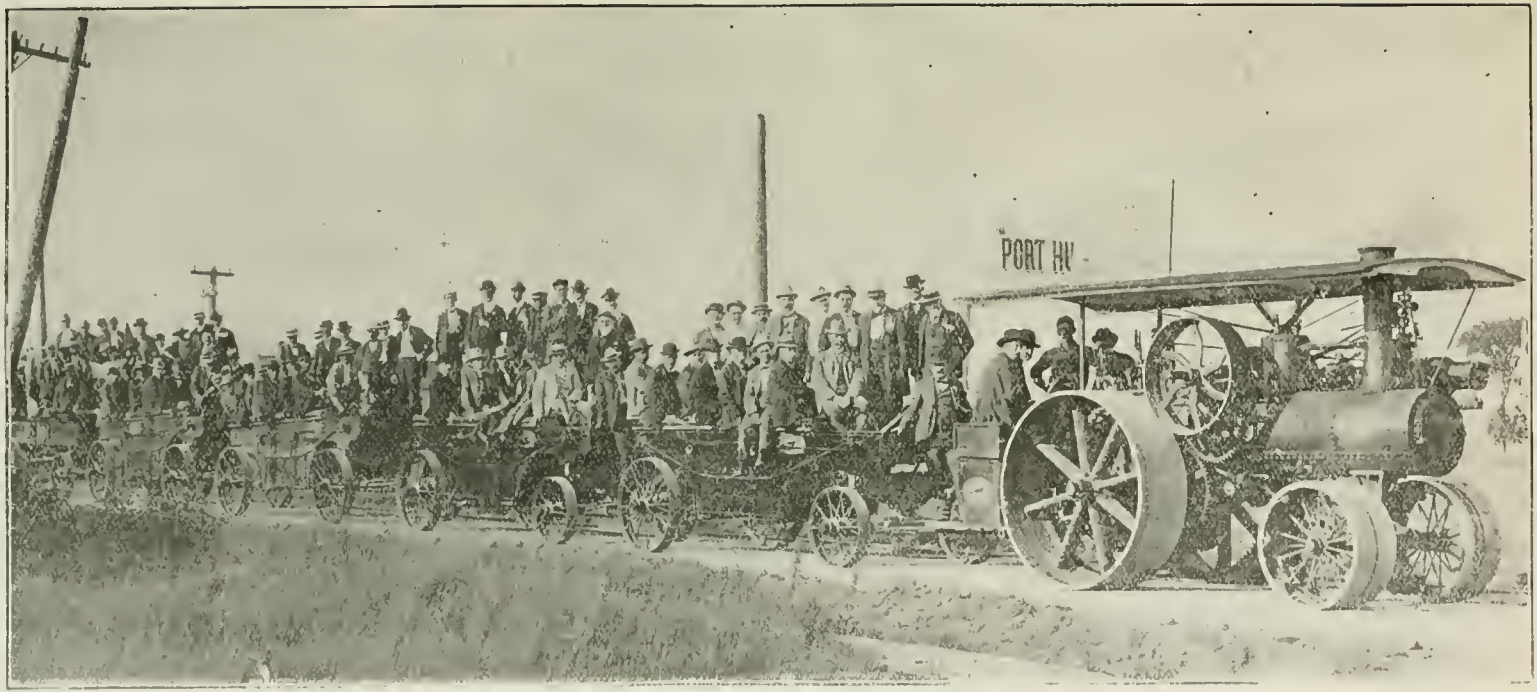
One operator should be employed to handle the grader, from year to year, if possible, and his growing experience will prove very valuable. If teams are used to operate the grader, these too should be used constantly, as horses accustomed to the work are able to accomplish very much more than will teams not used to it.

Horses, however, are not the only power available, traction engines having been used to a considerable extent. These are steadier than horses, do not stop so frequently to rest, and for certain kinds of work, more especially on long stretches where much turning is not required, they are to be preferred to horses. Where municipalities do not care to purchase a traction engine, they are frequently able to hire one from a thresher resident in the township, who has little use for it in the spring of the year. Two teams are needed to operate a grader, costing $5 or $6 per day. A traction engine may frequently be hired for $4 a day, effecting a considerable saving. The cost of a grader is about $250, and is a necessary investment for all townships which desire the best results at a minimum cost.

A rock crusher is a valuable implement in many localities and a number are now owned by municipalities in Ontario, chiefly, as yet, towns and cities. About fifteen townships have purchased them, while a number of others rent them, or contract for crushed stone at a rate per cord.

These machines are made after various patterns, the main division being into "rotary" and "jaw" crushers. Some, of smaller size, are set on wheels and may be moved readily from place to place. Others are for stationary work, in a quarry, or at a point to which stone, field boulders, etc., are brought to be broken. They are operated by steam power, a traction engine, or stationary engine, as circumstances render most advantageous. Some municipalities owning a steam roller obtain power from it, but this is apt to injure the roller.

One of the most valuable features of a crusher is that by attaching to it a rotary screen, the crushed stone may be separated into grades according to size—usually such as will pass through a three inch ring; such as will pass a one and one-half inch ring; and fine chips and screenings. By placing the coarse stone in the bottom of the road, and the finest on top, a smoother and more durable road is obtained. An average cost of a



TRACTION ENGINE, ROAD ROLLER AND GRAVEL TRAIN.

A traction engine which can be made into a road roller by changing the wheels.—Exhibited at a good roads convention, drawing a train of gravel wagons.

crusher is $700 or $800, and with it, stone at the crusher may be crushed for from 20 cents to 30 cents per cubic yard, according to the kind of crusher and the hardness of the stone.

The advantages to be derived from a road roller in the construction of a broken stone road are becoming more and more appreciated. Unless a roller is used, the stone must be spread loosely on the road and left for traffic to consolidate. A road should be made for traffic, not by it. To leave loose gravel and stone in the traveled roadway is neither an agreeable method of constructing a road, nor will it produce the most durable road.

The consolidation of loosely spread stone or gravel is a slow process, causing much inconvenience to travel, during which, the earth of the sub-soil becomes mixed with the stone. Earth intermixed with stone prevents the strong mechanical bond, which clean metal will assume when the stones are wedged one against another by a roller. The particles of earth, too, when wet, have a lubricating influence on the stone, and under the action of wheels the surface is more readily broken up. By the use of a roller the earth sub-soil should first be thoroughly consolidated. The stone should be placed on this foundation in layers, and each layer well compacted. In this way a smooth, durable, waterproof coating of stone, free from earthy material, can be laid over a firm foundation

There are different classes of rollers. The horse roller, weighing six or eight tons will do fairly well if a steam roller cannot be afforded, but the horse roller is not sufficiently heavy for the best results. It has to be used much longer than the steam roller. The feet of the horses, too, in exerting sufficient strength to move the roller, sink into and disturb the road metal, and injure the shape and quality of the roadway.

The steam rollers are of various weights, ranging commonly from eight to twenty tons. Rollers of fifteen tons weight are those generally used by the towns and cities of Ontario. The cost of horse rollers is usually about $100 per ton or from $500 to $800 each. Horse rollers are, however, generally so constructed that the weight may be increased by iron castings; so that a roller of five tons may be made to weigh about six. Steam rollers cost about $3,000. For operation, a horse roller, for two teams, will cost $6 per day; and a steam roller $10 a day, but will do three times the amount of work done by a horse roller, so that the saving in operation is considerable.

There has recently been introduced a type of traction engine, on which the wheels may be replaced by heavy rolls, converting the traction engine into a road roller of moderate weight. The rolls cost two or three hundred dollars in addition to the price of the traction engine. A machine of this kind would appear to be very valuable, as a substitute in the smaller municipalities where a steam roller cannot be afforded, and where a traction engine would be of service in working a grader, or in hauling gravel.

The hauling of gravel by traction engine has not yet been undertaken in Ontario. In the States wagons are in use which will hold about three quarters of a cord of gravel each. A train of three or four can be attached to a traction engine, and the gravel hauled to the roads very rapidly and in large quantities.

These are the principal implements of roadmaking, those most commonly used. To the list should probably be added wheeled scrapers for earthwork, especially useful in making cuts and fills. The list may include the implements for making cement-concrete pipe for culverts, and many appliances for the convenience of labor.

The machinery of roadmaking, like the machinery of farming, has developed very materially of recent years. A full plant, for complete, economical and serviceable work is very expensive. Cities can afford such a plant, nearly every city in the Province and a number of towns having supplied themselves with a full outfit of roadmaking machinery.

Townships, however, cannot afford to do this. A road grader is all that the majority will buy, and a good many have not even done this. Some few have bought rock crushers. The result is that only the very simplest of roadmaking appliances are available for use on the country roads. The main roads, many of them heavily traveled, supporting all the traffic from a large territory, receive the same treatment in construction and maintenance as do the back concessions.

There is one, perhaps there may be said to be two exceptions, and these point to a feasible plan for obtaining proper machinery for the heavily travelled roads. The County of Hastings, on its system of county roads, makes use of graders, a traction engine, a rock crusher, and a steam roller. In the County of Victoria, while it has not a system of county roads, the council purchased a roller and rock crusher, to be used by the different township councils, a plan which, while an improvement, does not achieve the full

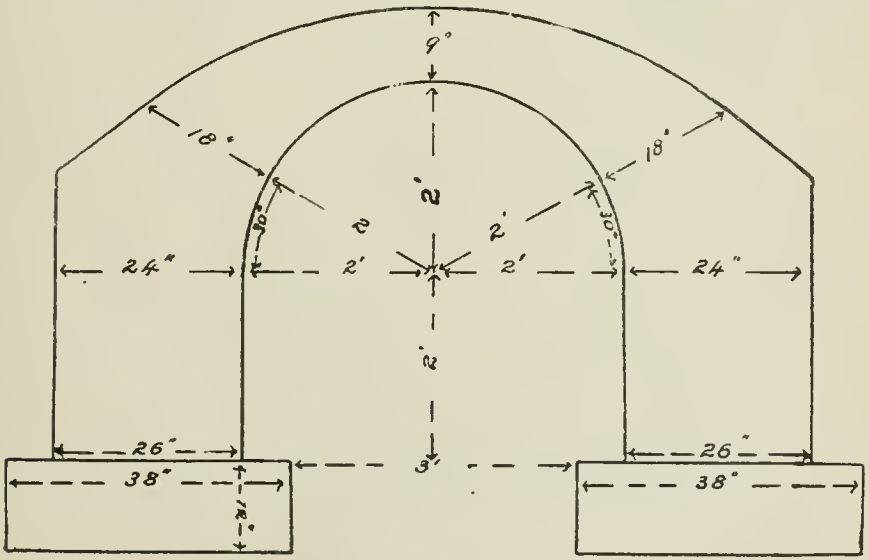
measure of success it deserves. The only system whereby these machines can be made available on our roads would appear to be under a complete county system, where the roads subjected to a heavy travel will receive the treatment they so urgently demand, both on the ground of economy and more efficient service.

CONCRETE CULVERTS.

Culvert construction forms an important branch of highway improvement. It creates a very large expenditure, frequently absorbing a considerable proportion of the entire appropriation available for road purposes. Until recently timber has been the only material employed, with the exception of an occasional rubble stone structure. Wood is by no means a permanent material for this class of work. It wears, warps and decays rapidly under all ordinary conditions. Rain, sunshine, frost, and traffic all co-operate to shorten its life. The cost of repairs in the period of its existence, frequently not more than eight years, rarely fifteen, is considerable in the aggregate, when it is considered that to merely put in a new plank may require a man's time for a half or a quarter of a day.

The price of timber is constantly increasing, while the quality obtainable is growing less satisfactory. Cedar, the timber generally employed, is not now to be had at a reasonable price in many localities. In the place of timber the materials being adopted are sewer pipe, concrete pipe, and stone, brick and concrete arches. These materials, from their stony texture, are evidently more durable than timber, especially in the matter of decay, and if protected from wear by a cushion of earth above them, and if in construction the action of frost is guarded against, they may be regarded as permanent. There will be failures, no doubt, where poor workmanship, or a poor quality of material is used, but these instances will become less and less with growing experience in their use. Experience, too, will lighten the cost, and will gradually perfect all plans employed.

As a matter of convenience for traffic, too, these wooden culverts and sluices should be discarded. Even on roads of heaviest traffic where timber culverts are used it is all too common to see drivers compelled to check their horses and then bump over the corners of a wooden box drain standing above the surface of the road. The time, energy and annoyance wasted in this way alone would many times rebuild the old wooden culverts with others that would be better and more durable.



Accompanying this article is a cross-section of a type of culvert adapted to the use of stone or concrete. The dimensions of arch and abutment will, of course, vary with different spans, but for the width of waterway indicated the dimensions should produce, with good workmanship and material, an exceedingly durable culvert.

The framework within which the concrete work is erected should be of dressed lumber, closely boarded up against the work as it proceeds. The centering for the arch should be well formed, an exact semi-circle. The ribs should not be farther than three feet apart. The lagging should be three inches thick and dressed to the intrados of the arch. All the framework, centering and supports should be substantial and well constructed and should not be removed in less than two weeks from the time of completing the concrete work. This framework is a considerable item of expense in the building of a culvert, but it can be used as often as it may be required for arches of similar span.

Where broken stone is used the concrete should be composed of one part by measure of Portland cement, two parts by measure of sand, and four parts by measure of broken stone. It should be mixed on a floor placed close to the work by first spreading evenly a layer of sand; upon this should be evenly spread the proportionate quantity of cement and the two thoroughly mixed in a dry state. To this water should be added and the whole thoroughly mixed and brought to the consistency of a stiff mortar. The proportionate amount of stone should then be spread evenly over the mortar and thoroughly intermixed. The concrete when mixed as described, should be immediately put in place and pounded and rammed until it is perfectly and uniformly solid, moisture appearing on the surface.

If gravel is used in forming the concrete it should be clean—that is, free from clay, turf or other earthy material. The proportion of sand in it should, in the most suitable gravel, be in the proportion of two parts of sand to three parts of stone. If the gravel is suitable it should be mixed with cement in the proportion of one of cement to five of gravel. The mixing should be done on a floor near the work by first placing on the floor the desired quantity of gravel, on this should be spread the proportionate quantity of cement, and the two thoroughly intermixed dry. To this should be added a sufficient amount of clean water to make the mass, when completely moistened, of the consistency of freshly dug earth.

If the gravel in its natural state is not clean, or if the amount of sand is insufficient, or much in excess, the gravel may be screened and suitable sand obtained and used in the right proportion. The mixing in this case should be done the same way as when broken stone is used. While screening and mixing uniformly in suitable proportions with good sharp sand will add to the expense of the work, it is nearly always necessary if the best results are to be obtained.

It will much lessen the cost of the work if within the body of the abutments of culverts of not less than four feet span, but not nearer than three inches to the surface in any direction, large stones be placed by hand in layers.

These stones should be in "rack and pinion" order, and not less than two inches apart. Concrete should be carefully inserted between the stones thus placed and thoroughly packed and rammed so as to fill all voids. Concrete should cover each layer of stones to a thickness of half the depth of the stones, when another layer of stones may be placed. A facing of concrete should at all times be kept at least six inches higher than the rubble concrete and united with the rubble concrete so as to form a continuous and solid mass. This outer rim of concrete should precede the placing of the rubble work within, and should be placed around the interior of the casing to a height of nine inches and a thickness of three inches. It should be thoroughly pounded so that no cavities shall remain when the outside casing is removed. In no instance should the rubble concrete extend higher than six inches below the top of the abutment, the top of the abutment to be finished with fine concrete. The rubble stone should not, under any circumstances, extend into the arch.

All cement employed in the work should be of a favorably known brand of Portland cement. It should be delivered in barrels or equally tight receptacles, and after delivery protected from the weather by storing in a tight building or by suitable covering. The packages should not be laid directly on the ground, but should be placed on boards raised a few inches from it.

The stone used should be granite, quartzite, fine-grained limestone or other equally strong and durable stone, care being taken to exclude all soft limestone, friable sandstone, and stone affected by the atmosphere. It should be broken into various sizes, the largest to pass, any way, through a two-inch ring. The sand used should be clean, sharp, silicious and of varying sized grain. The water used should be clean and care should be taken not

to use an excessive amount, the concrete when mixed and ready for the work to have the consistency of freshly dug earth.

Care should be taken to make the extrados of the arch a smooth, regular surface such that moisture will not find lodgment. All framework and centering should be of dressed, well-fitted lumber, and the concrete should be perfectly rammed into place so that all surfaces will be smooth, without cavities, when the casing is removed.

While the work is in progress, it should be so arranged that a steady supply of mixed concrete will pass from the mixing box to the point where it is to be placed. At any time when the work is interrupted before its completion, or at the end of the day, a wet covering should be placed over the last layer of concrete; before the work of depositing the concrete is resumed, this surface should be thoroughly flushed with water to remove any foreign material which may have gathered. No concrete should be laid in wet or freezing weather.

SPECIFICATIONS FOR CEMENT-CONCRETE WALKS.

The following form of specification includes the most necessary requirements for laying artificial stone walks by contract. They should, however, be varied as circumstances may render expedient:—

Location and extent of walks.

1. The location and approximate extent of artificial stone side walks to be laid under these specifications are as follows:

Removal of old sidewalks.

2. The corporation shall remove the old plank, stone, brick, and other sidewalk from the street before the construction of the new walk shall be commenced by the contractor, all such material being the property of the town, to be disposed of as the engineer may direct.

Removal of excavated earth and rubbish.

3. All excavated earth, stones, posts, stumps, other obstacles or rubbish shall remain the property of the town, to be removed by the contractor to such a point or points as the engineer may direct; if not hauled for a distance exceeding one half mile, such removal to be without extra charge.

Levels, stakes and bench-marks.

4. The walk shall be laid to the lines and levels given by the engineer. No stakes or bench-marks placed for this purpose by the engineer shall be moved or effaced by the contractor without the permission of the engineer so to do.

Preliminary excavation and earth-work.

5. The space over which the walk is to be laid shall be excavated to a depth of twelve inches below the elevation of the finished walk in accordance with the plans and profiles, on file at the office of the engineer. Perishable or objectional material shall be removed to a further depth, to secure a firm foundation if so required by the engineer. Such excavation in excess of twelve inches shall be filled with gravel, or other material approved by the engineer, and the bottom of the sub-grade thus obtained shall be then made thoroughly firm and solid by pounding or rolling. For all excavation or filling ordered by the engineer in excess of twelve inches below the grade of the finished walk, the contractor shall be entitled to the sum of 35 cents per cubic yard.

Tile drainage.

6. A porous tile drain shall be laid centrally beneath the walk, to the depth, grade, of such diameter, and carried to such outlets as are specified upon the plan and profile on file at the office of the engineer; and tile drains for carrying surface and other water through or under the walk shall be laid as indicated upon the aforesaid plan and profile. All tile used shall be of the best quality of clay, manufactured expressly for drain purposes, in lengths not less than one foot, and of uniform diameter throughout. All earth excavated in the laying of these drains shall be returned to the trench, being thoroughly rammed and pounded in layers not exceeding one foot in thickness, and rendered perfectly firm and solid, to the satisfaction of the engineer. When sewer pipe is required in place of common tile, such pipe shall be furnished to the contractor by the engineer; and shall be laid in all respects to the satisfaction of the engineer.

A layer of gravel or broken stone seven inches in thickness.

7. Upon the sub-grade thus excavated, drained and consolidated, shall be spread a layer of clean gravel or broken stone to be thoroughly wetted, rolled or pounded, and brought to an even surface. The layer of gravel or stone so placed shall have a thickness of seven inches; and shall be uniformly not less than five inches below the elevation of the surface of the finished walk, having preference thereto.

A layer of concrete, four inches in thickness.

8. Upon the foundation thus prepared, a layer of concrete shall be laid in the following manner: It shall be composed of one part by measure of fresh cement, of a quality approved by the engineer, and in accordance with the specifications for such elsewhere herein described; three parts by measure of clean, sharp sand; and four parts by measure of broken stone of such a size as will pass through a two-inch ring. (Or where gravel is used the concrete shall be composed of one part of cement and five parts of clean gravel). The concrete shall be mixed on a water-tight platform placed close to the work, by first spreading evenly a layer of sand; upon this shall be evenly spread the proportionate quantity of cement and the two thoroughly mixed while dry. To this water shall be added and the whole thoroughly mixed and brought to the consistency of mortar. The proportionate amount of stone shall then be spread evenly over this mortar and thoroughly intermixed therewith. The concrete when mixed as aforesaid, shall be immediately put in place and thoroughly pounded until it has an even surface, is perfectly and uniformly solid, and is four inches in depth over the foundation and within one inch of the finished surface of the walk. Slab or flag divisions shall then be marked off, sixteen feet in area, the joints to be filled with clean sand or other approved separating material.

A layer of concrete one inch in thickness.

9. Before the aforesaid layer of concrete has set, and while it is still adhesive, there shall be laid upon it a wearing surface one inch in thickness. It shall be composed of one part by measure of Portland cement, and two parts by measure of clean sharp sand. The cement and sand shall be mixed dry, water then added to moisten sufficiently, the whole again thoroughly manipulated and mixed in a water-tight box or floor and immediately put in place. The layer shall then be thoroughly worked to a true and even surface. Over this shall be sifted a layer of Portland cement, the whole to be neatly levelled to a perfectly smooth surface, and rolled with a tooth roller to make a surface that will not be slippery. This surface layer shall be cut into sections, the joints to correspond exactly with those of the first described layer of concrete, the edges of the walk to be rounded, and the whole finished in a neat and workmanlike manner

Temporary curbs to be supplied by contractor.

10. Before any concrete is placed in the walk, temporary curbs, of 2 x 6 pine, with edges dressed so as to be perfectly straight, shall be firmly and accurately placed along the outer edges of the walk, to be removed after the walk has hardened; these curbs to be furnished by, and remain the property of the contractor. When the curb is removed, the vacant space must be filled with good soil, and any sodding disturbed in so doing must be carefully restored.

Total thickness and slope of walk.

11. The total thickness of the walk, including foundation layer, concrete layer, and the wearing surface, shall be uniform throughout, and shall have a slope towards the roadway of $\frac{1}{4}$-inch to the foot, unless otherwise required by the engineer.

Cement.

12. All cement used in the work must be of some well and favorably known brand, and shall be approved by the engineer. It shall be delivered in barrels or equally tight receptacles, and must be protected from the weather by storing in a tight building or by suitable covering, the packages to be placed on boards or flooring raised above the ground. All cement rejected by the engineer shall be conspicuously marked "Condemned," and shall be immediately removed from the site of the work. Should any cement so rejected be thereafter used in the walk, such sections as may be required by the engineer, shall be immediately torn up by the contractor, and replaced with cement of proper quality, without extra compensation. The supply of cement must be so gauged that a sufficient quantity will be kept on hand to allow ample time for testing and examination by the engineer, without delay to the work of construction: the cement to conform to the following tests, and such others as the engineer may require:—

(*a*) At least 90 per cent. shall pass through a sieve having 10,000 holes to the square inch.

(*b*) Pats made of neat cement, with thin edges, on pieces of glass, covered with a damp cloth, and allowed to set in air; then placed in boiling water 48 hours, must not show expansion cracks, distortion, nor curling of the thin edges.

(*c*) Samples of cement shall be made into the consistency of a stiff mortar, pressed firmly into moulds, and covered with a damp cloth, then allowed to set in air 24 hours, then in water three, and seven days. When in water three days, six samples shall show an average tensile strength of 300 pounds per square inch; when in water seven days, six samples shall show an average tensile strength of 450 pounds per square inch.

13. The stone and sand shall at all times be subject to the approval of the engineer, the sand to be clean, sharp and silicious. Sand and stone.

14. At street crossings, lanes and private driveways, the walk shall be so rounded, placed, and at such an elevation as to give a convenient passage for vehicles, to the satisfaction of the engineer. The surface layer of concrete shall be $1\frac{1}{2}$ inches thick, composed of equal parts by measure of cement and sand, and marked into diamond shaped blocks by lines crossing the walk diagonally six inches apart. The edges shall be rounded, and faced to the bottom of the concrete with the cement mortar used for surfacing the walk. At all street crossings, and elsewhere if so desired by the engineer, the edges of the walk shall be protected by a curbing of 4 x 6 cedar, placed in a permanent and durable manner, flush with the surface of the walk. Street crossings, lanes and private driveways.

15. The contractor, in doing the work, shall excavate or fill in around trees in a careful manner so as not to injure the said trees ; and all gratings, areas, tree-spaces, or other interruptions to the walk shall be regarded as continuous in the payment of the walk. The repairing or building up of area walls or other supports for gratings shall be performed and the material supplied by the contractor, as the engineer may direct. Trees, tree-spaces, gratings, areas, etc.

16. No concrete shall be laid in wet or freezing weather. Laying concrete in wet or freezing weather.

17. Care must at all times be taken to prevent injury to waterworks stopcock-boxes, down pipes, door sills, steps, areas, gratings, or other appliances which may be under, project into, or pass through the walk, and the pavement shall be carefully and neatly filled around such appliances. When required by the engineer, all gratings or covers furnished the contractor shall be properly fitted into and conform to the surface of the walk. Prevention of injury to waterworks and other appliances.

18. The contractor shall be bound to maintain the walks and crossings in perfect repair, free from all cracks and defects, for the term of five years from the date of completion thereof, so that at the end of such term, the walks shall have given evidence of their proper construction and durability, and should the contractor fail to repair or reconstruct the walks in accordance with these specifications at any time during the said term, the engineer may cause the necessary repairs to be made, retaining the cost from moneys due, or becoming due to the said contractor on this or any other contract between the town and the contractor, or may recover the same from the contractor, or his sureties in this contract, as money paid at their request. The certificate of the engineer is to be final as to the necessity of repairs and amount expended upon them. Contractor to maintain walk in perfect repair for five years from date of completion.

19. Care shall be taken at all times not to interfere with business or travel more than is absolutely necessary for the faithful performance of the work. The contractor shall make suitable and adequate provision for the safe and free passage of persons by or over the work, as may in the opinion of the engineer be necessary, and must confine himself to that half of the street on which the sidewalk is being put down, leaving the other half for the regular traffic. Interference with traffic.

20. At all times during the progress of the work care must be taken not to unnecessarily injure or destroy private lawns, nor boulevards adjacent to the walk. On the completion of the work all surplus or refuse material must be immediately removed from the street by the contractor. If not removed within forty-eight hours after notice in writing so to do from the engineer, it shall be removed by the engineer at the contractor's expense. Care of private lawns, boulevards, and removal of surplus material.

21. The contractor shall, during the progress of the work, use all proper precautions by good and sufficient barriers, red lights, or watchmen, for the prevention of accident, and he will indemnify and save the corporation of the town of .....from all suits and actions, and all costs and damages occasioned by the negligence or carelessness of the contractor or his agents, or employees. Liability in case of accident.

22. The contractor or his duly authorized agent or foreman shall at all times while work is in progress, be on the ground, and instruction given by the engineer to such agent or foreman shall be of the same effect as if given to the contractor. Contractor or his agent to be on the work while in progress.

23. The word engineer, where and whenever used herein, refers to the engineer of the town of.....or his authorized assistants, or other person appointed by the council of the town of ....to have charge and oversight of the work. Engineer defined.

24. The decision of the engineer shall be final in case of ambiguity of expression in the specifications, or doubt as to the correct interpretation thereof. Interpretation of specification.

Disorderly or incompetent employees.

25. Any disorderly or incompetent person or persons who may be employed on the work shall be removed when required by the engineer, and no person so removed shall thereafter be employed upon any portion of the work.

Defective work.

26. Any defective work that may be discovered by the engineer before the final acceptance of the work or before final payment shall be made, shall be removed and replaced by work and material which shall conform to the spirit of the specifications; failure or neglect on the part of the engineer to condemn or reject bad or inferior work or materials, shall not be construed to imply an acceptance of such work or materials.

Payment of contractor.

27. The contractor is entitled to receive 80 per cent. of the value of any portion of the work completed under these specifications, at the end of each fortnight, such completion being certified by the engineer, and by the chairman of the board of works. At the expiration of sixty days after the acceptance of the work, the whole of the moneys accruing to the contractor under these specifications shall be paid, excepting such sum or sums of money as may be retained under any of the provisions herein contained, and such sums as may have been paid in the form of partial payments upon the fortnightly estimates of the engineer.

Necessary notices.

28. All necessary notices to waterworks, gas, electric light, telephone, or telegraph officials, owners or occupants of property, or other interested parties shall be given by the contractor.

Payment of workmen.

29. The contractor shall punctually pay the workmen who shall be employed on the work comprised in these specifications, in cash current, and not what is denominated as "store" pay. And final payment for the work shall not to be made until satisfactory vouchers are furnished the engineer by the contractor showing all wages to have been paid.

Unforeseen obstruction delay or hindrance.

30. All loss arising from unforseen obstructions or difficulties encountered in the performance of the work under these specifications, or from delay or hindrance from any cause during the prosecution of the same, shall be sustained by the contractor.

Commencing the work.

31. The work to be done under these specifications shall be commenced on such day and at such place or places as the engineer may direct. Failure so to commence without good and valid reason therefor, will be authority for the engineer to declare the contract forfeited. Nor shall the contractor commence work on any street without the order of the engineer so to do.

Forfeiture of contract.

32. The Board of Works reserves the right to declare the contract forfeited at any time it should appear to the engineer that the work, or any part thereof, is being unnecessarily delayed by the contractor, or that the contractor is wilfully violating any of the conditions of the contract, or is executing the same in bad faith.

Removal of rejected work or material.

33. In case the contractor should refuse to remove or replace any rejected work or material within forty-eight hours after written notice, such work or material shall be removed by order of the engineer at the contractor's expense.

Tender to be accompanied by a cheque for $100.

34. Each tender must be accompanied by a certified cheque for the sum of $100, as a guarantee of good faith on the part of the person tendering, all such cheques to be retained in the possession of the town treasurer until the contract and bond for the performance of the work are signed and filed with the engineer.

Bond for $1,000 required.

35. Before the contract shall be signed, or the work commenced, the contractor shall furnish a bond for the sum of $1,000 for the satisfactory completion of the work, signed by two responsible sureties, and approved by the chairman of the board of works.

Right to reject tenders.

36. The right to reject any or all tenders is reserved by the town of ..... and the lowest or other tender is not necessarily accepted.

Form of tender.

37. Tenders for the work under these specifications must be made on the forms for this purpose, which may be had on application to the engineer.

Receiving tenders.

38. Sealed tenders, endorsed "Tender for Artificial Stone Sidewalk," will be received by the engineer up to noon, the.....day of.....next.

A MILLION DOLLARS FOR HIGHWAYS.

The following is the Act passed at the last (1901) session of the Ontario Legislature, appropriating one million dollars, from the surplus funds of the Province, as a means of co-operating with county and township councils in the improvement of public highways.

HIS MAJESTY, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows :—

$1,000,000 appropriated for road improvements.

1. The sum of $1,000,000 is hereby set apart to be paid out of the Consolidated Revenue fund of the Province to aid in the improvement of public highways subject to the terms and conditions hereinafter set forth.

Townships to report acceptance or rejection of by-law.

By-law designating highways to be improved.

2.—(1) The highways to be improved in any county may before the 1st day of January, 1903, be designated by by-law of the county council and a copy of such by-law shall be transmitted forthwith to the clerks of the townships of such county.

(2) The municipal councils of the townships shall within three months of the receipt of such notice from the clerk of the county council take into consideration the highways so designated in said by-law and shall report their acceptance or rejection of the same to the clerk of the county council.

Arbitration where one third of townships are adverse.

Rev. Stat. c. 223.

(3) On receipt of such reports by the clerk of the county council from the clerks of the township councils in the county, if it should appear that one-third of the township councils are adverse to the highways designated by the county council as county highways, then the roads within such townships as reported adversely which are to form part of the county highway system of such township shall be determined by arbitration as provided in *The Municipal Act*.

Submitting question to ratepayers.

(4) Where it appears that more than one-third of the township councils disapprove of the system of highways designated in the by-law submitted by the county council, the county council shall then submit to the ratepayers of the county qualified to vote on money by-laws the question "Are you in favor of a county road system?" If a majority of the votes cast is in favor of a county road system, the roads to be designated and assumed within any township, the council of which disapproved of the roads designated by the county council, shall be determined by arbitration as provided in *The Municipal Act*.

Submitting by-law for assuming roads.

3. Before the final passing of a by-law by a county council designating and assuming roads as provided in sub-sections (1), (2) and (3) of this section, the county council may submit the same for the approval of a majority of the ratepayers of the county qualified to vote on money by-laws.

When local municipalities may adopt road scheme.

4. In case the by-law or question so submitted fails to receive the assent of a majority of the rate payers of the whole county so voting or the county council neglects to take action as provided in section 2, then the council of any local municipality in the county may on or before first of January, 1904, pass a by-law designating the roads within such local municipality to be improved, but no by-law for the improvement of roads in any municipality shall take effect until such by-law is approved by a majority of the rate-payers of such municipality in the manner provided by *The Municipal Act* with respect to by-laws for the creation of debts.

Application of grant to purchase of toll roads.

5. Any municipality may apply the whole or part of the moneys to which it may be entitled under this Act towards paying any expenses that may be incurred for the purchase of toll roads within such municipality, or for freeing the same from tolls. Such toll roads as are purchased shall be included in the roads to be designated and assumed or improved in accordance with the provisions of this Act.

Regulation and inspection.

6. Any highway, in order to come under the provisions of this Act as to aid, shall be constructed or repaired according to the regulations of the Public Works Department with respect to highways.

Mileage assumed to be proportioned to assessed area.

7. The road mileage to be designated and assumed in accordance with this Act shall, as nearly as practicable, be in proportion to the assessed area of each township and county, provided always that no township or county shall receive out of the said sum of $1,000,000 more than the sum to which it is entitled under this Act.

Grant of one-third of cost of improvement.

8. On the completion of any work of road improvement under this Act the council of the municipality under which such work was carried on shall submit to the Public Works Department a statement setting forth the cost of such work, such statement to be certified by a competent engineer who shall further certify that the regulations of the Public Works Department have been complied with, and on the receipt of said statement by the Provincial Treasurer, certified and approved by the proper officer of the Public Works Department, the municipality shall be entitled to receive out of the moneys hereby set apart for public highways an amount equal to one-third of the cost of the work but not to exceed the proportion of the appropriation to which such municipality is entitled.

Issuing debentures for expenditure in highways.

9. The municipal council of any township or county taking advantage of this Act may raise by debentures, payable in twenty years, as provided by *The Municipal Act*, such sums of money as may be necessary to meet any expenditure on highways under this Act, but in no case shall the debentures issued under this Act exceed two per cent. of the equalized assessment of the county.

Statute labour on improved roads to be commuted.

10. The statute labour, for which all lands fronting on roads constructed or repaired under this Act may from year to year be liable, may be commuted and may be applied towards the improvement of the other highways of the municipality as may be determined by the township councils concerned.

Amount of colonization road grant to be deducted.

11. In the case of any township receiving grants from the consolidated revenue of the Province for colonization roads, the amount of such colonization grants shall be deducted from any sum of money to which such township is entitled under this Act.

Grants made before passing of Act to be deducted.

12. Where any township has been in receipt of grants for colonization roads out of the consolidated revenue fund, for the five years previous to the date of this Act, the assessed area of such township shall be deducted from the area of the county in which such township is situated, in determining the sum to which the county is entitled under this Act.

TOLL ROADS EXPROPRIATION ACT, 1901.

The Act to facilitate the purchase of toll roads passed at the last (1901) session of the Ontario Legislature, is the following. Special attention is directed to Section 12, which affords a new and convenient method of dealing with certain cases.

HIS MAJESTY, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows:

Short title.

1. This Act may be cited as "*The Toll Roads Expropriation Act, 1901.*"

Interpretation.

2. Where the words following occur in this Act they shall be construed in the manner hereinafter mentioned unless a contrary intention appears:—

"Owner" or "owners."

(1) "Owner" or "owners" besides including any person or persons, in whom the legal and equitable estates are vested, shall also include any joint stock company as well as any municipality.

"Road" or "roads."

(2) "Road" or "roads" shall include any parcel of land or franchise respecting or any easement in any land, and also any toll houses or other buildings erected thereon or used therewith. R.S.O. 1897, c. 239, s 2.

Agreement for cesser of tolls.

3. The municipal corporation of any township or of any county may agree with the owners or lessees of any road as to the amount to be paid in order that tolls on such road may be abolished, but in the event of their failing so to agree the same shall be determined by arbitration as hereinafter provided.

Appointment of arbitrator by municipality.

4. Where a toll road owned by a person or corporation lies wholly within one township, the municipal council shall within three months after the receipt by the clerk of the municipality of a petition signed by fifty ratepayers by by-law appoint an arbitrator for the purposes of this Act. Where such road lies within two or more municipalities of the same county the municipal council of the county shall within two months after the receipt of a petition from each of the municipalities concerned signed by at least fifty ratepayers of each of such municipalities by by-law appoint an arbitrator for the purposes of this Act.

Appointment of arbitrators by owners.

Third arbitrator.

5. On the appointment of an arbitrator as hereinbefore mentioned either by a township or by a county, the clerk of the township or of the county, as the case may be, shall notify the owners of the road of such appointment. On the receipt of such notice, the owners of such road may appoint an arbitrator and in default of their doing so within 21 days of the receipt of such notice the judge of the county court shall appoint an arbitrator to act in their behalf. The two arbitrators so appointed shall, within 7 days of the appointment of the last person appointed, meet and appoint a third arbitrator, and in default of their doing so from any cause then the judge of the county court shall *ex officio* act as a third arbitrator.

Persons disqualified from acting as arbitrators.

6. No member, officer or person in the employment of any corporation which is concerned or interested in any arbitration, nor any person so interested shall be appointed or act as an arbitrator in any cases of arbitration under this act; but nothing in this section contained, shall prevent the appointment of or disqualify as an arbitrator any person by reason merely, that such person is a ratepayer of or within any municipality concerned or interested in the arbitration.

Sections of Rev. Stat. c 62 to apply.

7. Sections 9 to 12, 15, 17 to 27, and 40 to 44 of *The Arbitration Act*, shall apply to arbitrators appointed under this Act and to arbitrators thereunder.

Mode of ascertaining price to be paid for roads.

8.—(1) For the purpose of ascertaining and determining the prices to be paid for any toll road the arbitrators may agree with the owners as to the price and terms of payment.

(2) If the arbitrators and owners are unable to agree the prices to be paid shall be determined by the arbitrators in the manner provided for by *The Act respecting the Public Works of Ontario* and all the provisions of the said Act in regard to the mode of determining the compensation to be paid for lands or other property or rights to be acquired by the Commissioner of Public Works shall apply as nearly as may be in determining the compensation to be be paid for roads or rights to be acquired for the purposes of this Act, but in lieu of making any tender the arbitrators may name a price which they are willing to fix as the price to be paid, and notice thereof to the owners shall stand in lieu of a tender. The compensation agreed to or awarded as aforesaid shall be the price to be paid for the roads or rights described in the agreement or award, in case the same are taken under this Act, within one year after such valuation or award has been made or after such price has been agreed upon.

Examination of roads.

(3) The arbitrators may examine the toll roads held or owned by any person, company or minor municipality for which they are appointed and for that purpose shall have power to travel over, measure, dig into and otherwise examine, such roads as they may deem necessary.

Examination of books and records.

(4) The said arbitrators shall also have power to examine all books and records connected with the management of any such road or roads and may require any owner or owners to produce the same for the purpose of being examined, and shall also have power to examine any person or persons under oath relative to the value, cost, income or expenditure, or net profit of any such road or roads, and in case any person shall refuse to testify or refuse to produce such books or records, he or they shall be punished for contempt of court in the manner provided for such cases in the courts of law.

Payment of compensation into court.

(5). If the person or company owning the roads could not without this Act have conveyed the same or agreed for the compensation to be paid therefor, or if any owner or party to whom the compensation money, or any part thereof, is payable refuses to execute the proper conveyance or other requisite instrument of transfer of the roads, or if the person entitled to claim the compensation cannot be found, or is unknown, or if there is reason to fear any claim or incumbrance the compensation money agreed upon or awarded may be paid into the High Court of Justice and a copy of the conveyance or of the agreement or award, if there be no conveyance, verified by affidavit, shall be delivered to the accountant or other proper officer of the Court.

Compensation to stand in place of the land.

(6). The compensation money for any roads acquired or taken under this Act without the consent of the proprietor or proprietors, shall stand in the stead of such roads, and any claim or encumbrance upon such roads shall be converted into a claim to the compensation money or to a proportionate amount thereof and shall be unavailing as respects the roads themselves.

When possession may be taken.

(7). Possession shall not be taken of any part of any road valued as aforesaid until the amount agreed on or awarded for the same has been paid to the company or owner, or to the persons appearing to be entitled to receive it, or has been paid into court under the provisions of this Act.

Costs where road not taken.

(8). If the road is not taken and paid for within one year as aforesaid the owner shall be entitled to receive from the municipality concerned the costs to which he has been put in any proceedings taken for determining by arbitration the value of such road; the amount of such costs shall be stated in the award of the arbitrators, whether the arbitrators direct that the party shall be entitled to such costs in the event of the road being purchased, or direct otherwise.

Costs to be in discretion of arbitrators.

(9). Subject to the provisions of the preceding section the arbitrators shall have full authority to determine by and to whom any costs incurred in connection with any arbitration shall be paid, but any costs which should be paid by an owner shall be directed by the award to be paid to the treasurer of the township or county; the award as to costs shall not take effect until the road is purchased, and if any costs are directed to be paid to the said treasurer by any owner the same shall be deducted from the price of the road.

When award to be final.

Appeal from award.

(10). The award of the arbitrators shall become final and absolute at the expiration of thirty days from the filing thereof with the clerk of the county or township as the case may be, but the Court or a Judge may, under special circumstances, allow an appeal after fourteen days to the High Court of Justice, and such appeal may be heard before a Judge sitting in Court, as appeals from the Master are heard, and the Judge may, upon the appeal, either amend the said award in any way and to any extent that he may deem proper, or refer the same back to the arbitrators for amendment in whole or in part, with such directions as to law or fact as he may deem proper, or he may confirm the same.

Power to borrow money for purchase of road.

9. After the award of the arbitrators has become absolute or settled on appeal, the township or county council, as the case may be, may, in the manner provided for in *The Municipal Act*, pass a by-law for borrowing the amount required to purchase the said roads, in accordance with the award of the arbitrators, by the issue of debentures of the municipality, payable in not more than twenty years. The county council may provide by such by-law for raising any amount required to pay and may pay to any municipality or municipalities which are not materially or only slightly benefited by the purchase of the road or roads, such a sum, by way of bonus, as may be deemed a fair or partial equivalent for the amount which such municipalities will be required to pay towards the said purchase or any part thereof.

Alternative by-law may be adopted.

10. In the alternative, where the roads to be purchased or taken are situate in but one or in a small number of the municipalities of the county, or where some of the municipalities are not, in the opinion of the arbitrators, interested in the roads, or in the abolition of the tolls, the arbitrators may, in addition to all other matters hereinbefore mentioned report whether, in their opinion, the by-law of the county council should be a sectional by-law, and applied to such of the municipalities as, in the opinion of the arbitrators, should pay for the roads. In such case the by-law of the council for raising or providing money for the purchase next hereinafter mentioned, may, if the council think proper, name the municipalities or portions of municipalities which shall be liable to repay to the county the amount paid for the purchase of the roads or abolition of tolls as aforesaid, and may also fix

the amount for which each said municipality shall be liable. In adopting a by-law under this section the council may provide a bonus as in the last preceding section, if they think proper.

Statement to be furnished to municipalities by county clerk.

11. The County Clerk shall, on or before the 31st day of December in each year, send to the clerk of each municipality interested, a written statement of the amount to be levied during the ensuing year by such municipality for the purpose of providing the amount necessary to meet the said annual payments of principal and interest, and the council of said municipality shall levy such amount accordingly.

Applying tolls in payment of debentures.

12. Instead of raising by taxation for the repayment of debentures the full amount of the purchase money of any toll road as in the preceding section mentioned, the council of any township or county may defer the abolition of tolls for a period of not more than ten years and may apply the proceeds of such tolls *pro tanto* towards the payment of such debentures, but in all such cases the municipality or municipalities interested as may be set forth in the by-law to that effect, shall maintain such road out of the general taxation on the assessed property of the municipality.

Abolition of tolls on township road.

13. Where a toll road is owned by a township within which it is situated the council of the township shall, within three months after the receipt of a petition signed by fifty ratepayers, pass a by-law fixing a date when the collection of tolls shall cease, said date not to be more than ten years from the passing of such by-law. Such by-law may be submitted to the rate-payers for approval as the council may deem expedient.

Application of tolls pending cesser.

14. Where a municipal council has passed a by-law for the abolition of tolls as in the preceding sections mentioned, all tolls thereafter collected shall be paid over monthly to the treasurer of the municipality, and shall be applied to the maintenance of roads within the municipality as the council may by by-law direct.

Tolls on roads belonging to cities and towns to be abolished on removal of tolls from roads purchased by counties.

15. On the completion of the purchase of the roads by any county, and upon the removal of tolls therefrom all tolls shall be removed from the roads owned by any city or town within such county within the limits of such city or town. Upon the removal of the tolls from any road under this Act, the responsibility of thereafter maintaining and keeping the same in repair shall rest upon the local or minor municipalities through which the same pass as in the case of ordinary highways.

Rev. Stat. 193, s. 34, repealed.

16. Section 34 of *The General Road Companies Act* is hereby repealed and the following substituted in lieu thereof :

Acquiring interest in roads until municipality is sole owner.

34. All municipal authorities representing the interests of the locality, through or along the boundary of which any toll road passes, shall set apart as a fund for the purchase of such road all taxes collected from such road company and all dividends received on the stock of the same, which may be owned by such municipality; and such municipalities and all cities, towns and villages, within three miles of said road, may add to such purchase fund from the other monies of the municipality; and such fund may be invested from time to time in the stock of such road company, or where such road is not owned by a company in purchasing a fixed interest therein, on the completion of the purchase of the whole of the stock of said company by the municipality or municipalities and payment of any debt incurred therefor, or sooner if the council of the municipality or municipalities shall so decide, all gates shall be removed from such toll road.

Rev. Stat. c. 239, repealed.

17. Chapter 239 of the Revised Statutes of Ontario, 1897, is repealed.

TOWNSHIP EXPENDITURE.

The common belief is that country roads at the present time are kept up principally by statute labor and that the money expenditure is scarcely worth considering. The following statistics, compiled from returns made by township clerks to the Bureau of Industries, show just what every township has spent on roads each year for the ten years 1889-98. These returns prove that the township roads are not by any means maintained by statute labor alone, and that the actual cash expenditure in ten years is very large, altogether too large, in comparison with the results produced. In many townships where large annual money appropriations have been made, it is stated that the roads are not as good to-day as they were ten years ago. Combining with this actual money expenditure paid by the people in local taxes every year the statute labor, at its legal value, $1.00 a day, there is evidently a large amount of energy in the shape of time and money spent and mis-spent on road maintenance. This expenditure is still going on and is in most cases increasing. From the past ten years we may judge what will be spent by township councils in the next ten years. It is to be hoped that every township will adopt such a system for the expenditure of this money that the results produced will be very much more satisfactory. Increased appropriations are not needed until better methods for expending them are established.

ESSEX.

Name of township.	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	Total.	Statute labor in 10 years, based on 1896.	Total value in 10 years.	Remarks.
	$	$	$	$	$	$	$	$	$	$	$	$	$	
Anderdon	2,549	2,285	2,187	631	1,934	2,048	3,527	1,848	1,236	1,374	19,619	14,510	34,129	
Colchester, North	2,888	1,148	1,913	354	1,345	1,695	1,551	2,438	2,674	2,284	18,290	21,590	39,880	
Colchester, South	2,256	1,667	1,269	2,239	2,628	2,030	1,532	1,910	4,457	3,645	23,633	32,420	56,053	
Gosfield, North	1,210	448	683	664	1,251	625	639	817	981	575	7,893	17,280	25,173	
Gosfield, South	1,271	2,388	1,542	1,028	1,492	1,804	2,122	1,862	2,011	1,419	16,939	12,890	29 829	
Maidstone	2,065	2,559	2,190	2,223	3,599	1,790	1,676	1,885	1,277	1,123	20,387	25,390	45,777	
Malden	2,564	1,993	1,481	1,688	2,322	3,434	2,839	2,394	2,803	2,479	23,997		23,997	Statute labor abolished.
Mersea	2,555	2,756	2,786	1,898	2,059	3,317	1,786	1,955	3,226	2,659	24,997	33,700	58,697	
Pelee Island	461	246	384	306	433	150	239	319	3	230	2,771	10,870	13,641	Statute labor commuted.
Rochester	1,751	1,601	936	1,023	1,280	2,485	1,963	1,095	3,347	785	16,266	17,440	33,706	
Sandwich, East	1,846	698	1,524	479	943	1,460	2,215	1,884	2,921	1,738	15,708	18,000	33,708	
Sandwich, South	1,070	1,631	1,527	931	1,546	813					7,518	21,920	29,438	
Sandwich, West	2,332	1,973	1,799	1,873	1,761	2,184	1,872	2,812	1,279	3,901	21,786	16,440	38,226	[in part.
Tilbury, North	3,675	323	2 334	499	1,789	2,195	761	1,482	1,755	1,167	11,576	13,800	25,376	Statute labor commuted
Tilbury, West	1,073	1,879	1,434	1,583	2,106	1,641	211				14,331	3,740	18,071	
											245,711	259,990	505,701	

Kent

Camden	7,372	1,147	1,312	1,002	1,892	1,751	1,986	1,900	1,585	1,174	21,121	26,630	47,751	
Chatham	3,924	4,092	2,518	1,415	2,026	3,207	2,436	3,934	2,734	1,639	27,925	39,000	66,925	
Dover	1,568	949	735	640	726	900	1,073	1,353	1,713	996	10,653	26,180	36,833	
Harwich	4,290	5,223	3,425	3,563	3,612	5,816	3,037	3,422	6,311	3,148	41,847	51,620	93,467	
Howard	3,039	3,277	2,173	1,908	3,168	3,195	3,461	2,966	2,772	3,858	29,817	23,770	53,587	
Oxford	2,239	2,178	1,839	2,676	2,322	1,758	1,944	1,723	2,488	2,748	21,915	27,810	49,755	
Raleigh	2,042	1,924	1,438	1,303	1,997	2,281	2,044	2,281	3,991	1,894	21,195	41,710	62,905	
Romney	2,120	1,021	690	1,261	564	973	115	608	1,461	637	9,450	16,600	26,050	
Tilbury, East	4,370	3,487	2,843	1,716	2,785	1,764	2,706	2,744	1,974	2,495	26,884	19,390	46,274	
Zone	763	664	765	707	603	558	1,495	878	471	500	7,401	11,640	19,044	
											218,211	284,380	502,591	

Elgin.

Aldborough	4,211	4,156	3,745	4,057	4,760	4,065	4,717	3,248	3,729	5,369	42,057	45,110	87,167	
Bayham	4,152	2,897	3,953	2,792	6,719	3,042	3,073	5,201	3,234	3,579	38,642	35,270	73,912	
Dorchester, South	2,938	2,365	1,281	1,891	1,151	3,117	3,410	2,845	1,738	2,570	23,306	18,870	42,176	
Dunwich	5,123	6,956	5,700	4,378	5,234	3,722	5,825	3,279	5,313	5,366	50,836	10,140	60,976	
Malahide	4,206	4,052	4,260	3,123	4,796	6,462	4,019	2,524	3,125	2,879	39,446	48,250	87,696	
Southwold	4,975	5,928	5,931	3,715	5,495	5,837	6,110	5,059	4,376	2,785	50,211	44,920	95,131	
Yarmouth	5,889	7,028	7,971	6,200	8,922	6,691	7,597	6,115	6,594	5,740	68,747	53,240	121,987	Statute labor commuted in one division.
											313,245	255,800	569,045	

Norfolk.

Charlotteville	1,201	1,235	958	698	840	961	1,115	629	692	911	9,240	30,680	39,920	
Houghton	846	1,219	892	598	724	1,079	862	1,119	957	1,027	9,323	16,230	25,553	
Middleton	1,961	2,394	2,342	1,397	1,740	2,602	2,863	2,337	2,036	2,583	22,255	31,510	53,765	
Townsend	3,886	1,949	2,460	1,016	1,312	1,101	2,134	2,250	1,165	1,344	18,617	45,420	64,037	
Walsingham, North	1,727	1,714	1,778	1,980	2,131	1,349	1,932	1,382	1,478	1,010	16,481	22,650	39,131	
Walsingham, South	2,211	1,232	1,301	1,272	1,088	1,000	1,457	962	968	475	11,966	24,130	36,096	
Windham	836	1,333	2,058	816	1,399	1,787	3,363	1,041	1,495	2,297	16,425	29,740	46,165	
Woodhouse	1,612	1,045	1,586	1,349	2,759	687	1,333	2,032	1,136	1,248	14,787	26,770	41,557	
											119,094	227,130	346,224	

Haldimand.

Name of township.	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	Total.	Statute labor in 10 years, based on 1896.	Total value in 10 years.	Remarks.
	$	$	$	$	$	$	$	$	$	$	$	$	$	
Canboro	466	150	387	701	219	1,032	584	334	1,077	270	5,220	13,030	18,250	
Cayuga, North	1,011	414	546	637	888	681	652	951	465	1,140	7,388	19,640	27,028	
Cayuga, South	68	145	87	298	101	82	33	92	32	59	997	6,950	7,947	
Dunn	149	132	221	263	264	194	451	174	166	283	2,297	9,010	11,307	
Moulton	458	496	501	597	771	392	537	508	701	615	5,576	19,280	24,856	
Oneida	2,729	2,047	2,858	1,302	706	626	807	884	1,030	1,264	14,253	18 290	32,543	
Rainham	218	416	215	554	274	578	988	204	134	924	4,505	17,110	21,615	
Seneca	657	1,142	966	1,052	921	988	584	718	1,369	633	9,033	20,120	29,153	
Sherbrooke	23	209	39	18	66	27	20	88	68	29	587	4,020	4,607	
Walpole	3,501	2,299	1,586	1,678	2,804	1,438	2,540	1,992	2,058	2,701	22,597	69,230	91,827	
											72,453	196,680	269,133	

Welland.

Bertie	1,199	1,079	1,457	1,312	1,990	1,677	969	1,190	1,289	1,358	13,520	36,220	49,740	Statute labor commuted.
Crowland	376	382	321	726	685	407	240	286	322	279	4,024	17,490	21,514	
Humberstone	962	652	702	540	736	545	352	1,234	614	455	6,792	39,080	45,872	
Pelham	1,078	1,165	880	755	922	847	737	518	764	591	8,257	31,380	39.637	Statute labor commuted.
Stamford	639	1 162	1,679	1,127	990	758	646	535	879	655	9,070	30,250	39,320	Statute labor commuted
Thorold	353	751	705	762	686	878	315	324	390	324	5,488	25,410	30,898	in part of township.
Wainfleet	652	820	1,120	794	1,397	1,274	1,251	1,288	1,866	972	11,434	30,210	41,644	
Willoughby	509	427	466	175	603	979	243	377	212	227	4,248	11,120	15,368	
											62,833	221,160	283,993	

Lambton.

Bosanquet	3,099	2,126	3,044	2,991	2,686	4,527	4,007	3 075	3,013	3,677	32,245	32,740	64,985	
Brooke	4,750	5,311	4,742	3,360	4,131	3,532	5,485	4,155	4,650	2,456	42,572	30,000	72,572	
Dawn	1,721	2,669	1,861	2,053	2,311	1,790	2,176	2,547	2,042	2,404	21.574	24,000	45,574	
Enniskillen	2,831	4,484	3,723	5,223	7,779	9,354	6,244	7,401	5,493	6,703	59,235	59,320	118,555	
Euphemia	1,620	1,559	1,598	1,179	5,014	5,595	3,721	1,832	1,466	1,066	24,650	21,600	46,250	
Moore	4,844	3,436	3,799	3,520	6,440	5,311	5,245	4,616	5,494	5,847	48,552	54,310	102,862	
Plympton	3,845	4,457	3,670	4,884	4,101	5,698	5,330	4,415	4,100	3,961	44,661	35,210	79,871	Statute labor commuted
Sarnia	1,534	2,097	3,965	1,370	3,304	2,272	1,930	2,450	1,811	3,559	24,292	22,530	46,822	in one division.
Sombra	2,364	3,648	2,223	1,741	2,826	2,162	2,462	2,283	1,784	3,846	25,339	5,230	30,569	

Warwick	3,246	3,250	3,647	2,890	5,206	10,827	4,336	5,034	4,175	4,080	46,891	34,850	81,741	
											370,011	319,790	689,801	
HURON.														
Ashfield	2,742	2,806	2,216	2,185	4,338	4,038	2,888	3,661	2,149	2,527	29,550	33,880	63,430	
Colborne	1,844	1,576	1,468	1,379	1,687	1,529	1,453	1,844	1,518	2 120	16,418	19,120	35,538	
Goderich	3,054	2,491	1,919	1,860	3,198	3,131	2,570	2,772	2,154	2,312	25,461	22,270	47,731	
Grey	2,661	1,797	2,337	1,346	2,026	3,153	3,188	2,433	2,301	2,579	23,821	41,540	65,361	
Hay	2,934	3,288	2,051	2,117	3,325	2,836	3,560	3,645	4,586	2,209	30,551	37,810	63,361	
Howick	2,131	1,581	1,899	1,365	1,488	2,571	1,644	1,831	1,852	1,812	18,177	40,230	58,407	
Hullet	3,541	3,396	3,560	2,158	2,643	3,036	2,439	1,870	2,796	2,469	27,908	28,350	56,258	
McKillop	2,456	2,356	2,062	3,177	2,298	2,912	2,315	2,106	1,747	2,001	23,430	39,300	62,730	
Morris	1,518	2,444	3,661	2,845	2,470	3,356	1,252	2,416	1,373	1,280	22,615	31,190	53,805	
Stanley	2,239	2,611	1,554	1,536	2,199	1,965	1,783	1,799	1,865	1,439	18,990	23,900	42,890	
Stephen	2,898	4,010	3,294	2,513	3,954	4,680	3,794	3,614	4,175	3,301	36,233	30,280	66,513	
Tuckersmith	1,887	2,015	1,602	2,133	2,466	2,103	1,735	1,766	1,578	1,564	18,849	28,510	47,359	
Turnberry	589	438	656	1,123	935	777	1,181	1,329	1,219	1,289	9,536	24,330	33,866	
Usborne	2,576	2,211	1,353	1,717	1,883	2,510	2,107	2,061	2,057	2,229	20,704	23,700	44,404	
Wawanosh, East	1,061	1,538	911	1,882	1,561	1,626	1,320	1,079	1,168	1,238	13,384	17,350	30,734	
Wawanosh, West	1,469	1,226	1,743	1,206	1,448	1,675	1,806	1,646	1,372	1,834	15,425	18,570	33,995	
											351,052	460,330	811,382	
BRUCE.														
Albemarle	497	687	569	760	774	695	547	625	797	812	6,763	10,410	17,173	
Amabel	1,148	1,000	1,589	1,064	1,561	1,249	2,228	725	1,556	1,872	13,992	12,500	26,492	
Arran	1,795	1,221	397	1,974	1,585	2,915	1,950	2,314	1,261	2,364	17,776	26,380	44,156	
Brant	2,620	1,830	3,238	1,326	5,326	2,465	3,931	2,709	1 672	6,055	31,172	34,660	65,832	Statute labor commuted.
Bruce	2,179	2,135	1,956	2,365	2,884	2,861	2,575	2,773	2,082	1,968	23,778	32,320	56,098	
Carrick	1,170	1,664	1,021	1,356	1,051	2,200	1,298	1,527	6,299	2,408	19,994	43,910	63,904	
Culross	1,542	1,431	1,352	1,566	1,688	1,432	992	2,004	762	322	13,091	29,850	42,941	
Eastnor	303	840	729	725	827	967	489	781	692	961	7,314	10,140	17,454	
Elderslie	1,338	1,040	2,489	1,683	2,929	2,420	2,058	2,595	2,014	2,029	20,595	53,210	73,805	
Greenock	2,484	1,485	1,647	1,378	2,026	2,633	2,210	2,902	1,659	1,835	20,259	32,720	52,979	
Huron	2,583	3,098	3,590	3,370	4,636	4,347	3,204	5,513	2,995	3,912	37,248	36,040	73,288	
Kincardine	1,360	1,838	1,591	2,066	2,565	3,506	3,324	2,840	2,972	2,818	24,880	41,090	65,970	
Kinloss	1,376	1,159	1,139	1,068	1,178	2,076	1,514	1,659	1,495	1,024	13,688	26,310	39,998	
Lindsay & St. Edmonds	363	1,012	687	249	427	539	344	399	2,450	315	6,785	4,790	11,575	
Saugeen	806	1,241	663	943	1,161	2,646	1,828	1,955	819	1,022	13,084	18,530	31,614	
											270,419	412,860	683,279	

Grey.

Name of township.	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	Total.	Statute labor in 10 years, based on 1896.	Total value in 10 years.	Remarks.
	$	$	$	$	$	$	$	$	$	$	$	$	$	
Artemesia	2,483	2,471	2,162	2,544	2,387	2,627	2,267	3,067	1,995	539	22,542	30,000	52,542	
Bentinck	2,325	1,657	1,376	1,781	2,806	1,891	2,016	2,673	1,693	1,310	19,5 8	40,000	59,528	
Collingwood	3,576	3,583	2,250	2,529	4,155	4,157	2,640	4,127	3,055	2,978	33,050	30,000	63,050	
Derby	1,742	1,655	1,663	1,890	1,968	2,427	1,395	1,850	1,803	1,567	17,960	21,880	39,840	
Egremont	825	1,261	450	1,459	1,567	593	587	449	411	453	8,055	39 930	47,985	
Euphrasia	1,547	1,038	1,156	1,651	2,597	1,513	1,916	1,385	1,054	718	14,575	34 240	48,815	
Glenelg	1,242	1,104	449	1,436	1,644	1,662	1 544	1,089	2,017	1,033	13,220	32,700	45,920	
Holland	828	892	133	741	1,248	1,244	1,172	1,212	1,172	1,213	9,855	34,500	44,355	
Keppel	1,798	951	1,077	1,697	3,415	2,192	1,468	1,624	1,650	1,718	17,590	37,600	55,190	
Normanby	3,745	2,269	3,504	1,997	2,608	3,448	4,314	3,580	2,373	3,027	30,865	34,160	65,025	
Osprey	950	876	1,122	909	1,457	1,195	957	864	758	798	9,886	33,850	43,736	
Proton	1,484	1,272	1,457	1,615	4,358	1,951	1,374	2,181	1,856	1,684	19,232	39,910	59,142	
St. Vincent	1,527	2,028	1,667	1,497	1,715	1,805	2,246	1,817	1,523	2,302	18,127	29,970	48,097	
Sarawak	1,010	1,327	1,004	976	937	1,396	532	480	632	707	9,001	13,940	22,941	Statute labor commuted.
Sullivan	1,930	1,096	1,296	1,390	1,485	1,970	1,457	1,545	1,071	1,599	14,839	35,220	50,059	
Sydenham	2,167	2,386	2,672	2,818	2,935	2,962	2,267	2,398	1,823	1,950	24,378	38,440	62,818	
											282,703	526,340	809,043	

Simcoe.

Adjala	818	1,139	1,236	560	865	1,043	671	483	1,487	364	7,666	23,440	31,106	
Essa	1,931	2,107	2,755	2,886	2,882	2,121	1,494	1,678	3,002	2,232	23,088	30,000	53,088	
Flos	3,146	2,048	1,777	1,312	2,392	1,323	757	1,580	1,896	1,586	17,757	34,670	52,427	
Gwillimbury, West	856	1,113	1,158	733	877	808	775	596	833	932	8,681	25,750	34,431	
Innisfil	2,577	1,517	1,730	1,165	1,389	1,532	1,144	862	1,691	1,615	15,222	38,350	53,572	
Matchedash	295	174	442	201	259	420	161	292	475	348	3,067	3,270	6,337	
Medonte	2,755	2,189	1,719	2.345	2,245	1,551	1,729	1,532	1,638	1,944	19,647	29,160	48 807	
Notawasaga	3,043	3,127	3,037	3,270	3,684	3,698	3,363	2,809	3,212	2,184	31,427	89,800	121,227	
Orillia	1,377	1,397	1,556	1,997	2,638	2.075	2,256	662	2,890	1,929	18,777	25,780	44,557	Statute labor commuted.
Oro	1,323	1,048	2.141	1,461	1,534	1,874	1,324	1,088	1,532	646	13,971	37,770	51,741	
Sunnidale	845	1,058	1.792	1,374	1,298	1,614	1,972	1,810	1,669	857	14,289	25,040	39,329	
Tay	1,672	1,430	1,515	1,560	1,473	1,851	2,098	1,281	1,811	945	15,636	30,050	45,686	

Tecumseth	1,919	2,663	3,305	2,257	2,162	2,645	1,246	2,075	1,599	1,524	21,395	34,430	55,825	
Tiny	1,387	2,466	1,504	812	1,140	1,021	1,297	1,619	2,377	1,035	14,658	33,000	47,658	
Tossorontio	1,044	887	533	553	412	531	408	858	625	504	6,355	12,590	18,945	
Vespra	1,957	1,278	1,441	1,598	1,304	1,859	1,448	1,753	2,215	853	15,706	21,100	36,806	
											247,342	494,200	741,542	

Middlesex

Adelaide	2,625	2,174	2,095	1,990	2,421	2,950	2,925	2,007	1,884	1,727	22,748	34,600	57,348	
Biddulph	2,686	2,805	3,389	3,609	3,270	3,482	3,011	2,598	2,630	2,752	30,232	28,560	58,792	
Caradoc	3,715	4,021	2,759	3,147	2,900	4,912	6,048	2,978	3,587	3,671	37,738	35,410	73,148	
Delaware	1,718	2,573	1,038	1,338	1,287	1,782	3,396	1,843	1,822	1,694	18,491	18,060	36,551	
Dorchester, North	3,369	4,474	3,167	1,702	7,749	4,903	8,160	4,910	4,124	3,883	46,441	37,240	83,681	
Ekfrid	3,956	4,431	6,244	4,217	3,241	5,090	4,031	3,521	2,421	4,437	41,589	22,720	64,309	
Lobo	4,199	3,052	4,501	3,433	3,226	4,917	4,585	4,778	3,144	4,679	40,514	28,280	68,794	
London	13,299	13,109	15,209	9,468	13,077	11,435	11,401	11,560	7,774	11,688	118,023	63,510	181,533	
McGillivray	5,809	3,350	4,125	3,518	6,395	5,223	5,243	3,975	4,338	3,949	46,925	50,000	96,925	
Metcalfe	4,754	2,460	2,612	2,377	1,965	2,933	1,938	3,190	1,907	2,716	26,852	25,000	51,852	
Mosa	1,705	1,891	1,603	1,375	2,427	2,097	2,651	2,605	2,325	2,708	21,387	27,190	48,577	
Nissouri, West	3,349	3,834	4,392	3,792	3,942	4,146	4,054	6,056	3,086	2,803	39,454	29,200	68,654	Statute labor commuted.
Westminster	6,813	6,084	5,515	5,668	6,387	5,627	6,022	6,971	6,071	7,925	63,083	37,900	100,983	
Williams, East	2,427	3,057	2,038	2,068	4,261	2,974	2,233	3,880	1,708	1,784	26,430	26,860	53,290	
Williams, West	2,822	1,467	2,028	1,464	2,389	1,725	1,195	3,567	1,432	1,601	19,691	20,760	40,451	
											599,598	485,290	1,084,888	

Oxford.

Blandford	2,567	895	1,247	1,063	1,707	1,096	961	1,392	910	1,475	13,313	23,130	36,443	
Blenheim	2,984	5,507	4,181	4,023	5,469	4,183	3,913	4,301	2,102	3,604	40,267	55,940	96,207	
Dereham	4,629	3,349	2,974	2,890	3,882	3,506	2,553	1,998	1,566	1,349	28,696	52,450	81,146	
Nissouri, East	2,709	2,740	2,247	2,803	1,810	2,334	1,822	2,032	2,034	1,620	22,151	33,180	55,331	
Norwich, North	3,526	3,120	2,983	2,080	1,919	1,662	1,989	1,593	1,374	1,550	21,796	30,480	52,276	
Norwich, South	1,760	2,446	1,884	2,392	1,792	2,058	2,189	2,199	2,837	1,049	20,606	30,100	50,706	Statute labor commuted.
Oxford, East	1,854	1,503	1,508	1,371	1,608	1,312	1,595	1,433	827	786	13,797	25,480	39,227	Statute labor commuted.
Oxford, North	1,467	1,921	1,286	1,159	2,856	1,030	1,099	1,083	1,285	930	14,116	16,120	30,236	
Oxford, West	1,443	1,264	1,354	1,150	1,071	1,253	760	1,326	745	721	11,087	21,090	32,177	
Zorra, East	5,828	5,721	4,408	4,162	7,982	4,391	4,467	5,621	3,844	4,786	51,210	46,650	97,860	Statute labor commuted.
Zorra, West	4,637	3,918	3,461	3,044	2,742	4,566	3,716	2,862	3,862	3,344	36,152	38,200	74,352	
											273,191	372,770	645,961	

Brant.

Name of township.	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	Total.	Statute labor in 10 years, based on 1896.	Total value in 10 years.	Remarks.
	$	$	$	$	$	$	$	$	$	$	$	$	$	
Brantford	7,060	2,319	2,041	1,681	5,760	2,920	2,252	2,704	4,233	4,151	35,121	56,190	91,311	[statute labor.
Burford	9,401	2,884	2,697	1,949	3,428	3,412	2,835	4,408	2,277	2,076	35,369	50,060	85,429	Partial commutation of
Dumfries, South	1,792	2,060	1,840	1,696	1,740	2,439	1,595	2,187	2,787	1,713	19,849	25,580	45,429	Statute labor commuted.
Oakland	275	180	167	64	227	171	112	102	290	324	1,912	10,700	12,612	
Onondaga	1,113	704	1,329	703	3,775	1,405	1,022	826	462	756	12,092	13,940	26,032	
											104,343	156,470	260,813	

Perth.

Blanshard	3,837	2,680	3,157	1,994	4,016	4,538	3,899	4,201	3,181	3,067	34,570	27,420	61,990	Statute labor commuted.
Downie	2,788	3,035	2,951	4,394	5,162	5,707	3,907	4,684	3,412	5,226	41,266	29,600	70,866	
Easthope, North	2,453	1,786	1,903	1,182	2,141	2,541	1,604	1,786	1,585	825	17,806	31,150	48,956	
Easthope, South	1,607	1,399	1,508	1,687	2,115	1,716	1,649	1,722	1,460	1,572	16,435	19,870	36,305	
Ellice	4,274	4,600	2,476	3,249	3,469	4,085	4,329	2,913	2,169	3,726	35,290	32,630	67,920	
Elma	4,058	3,555	3,313	3,180	3,451	3,228	2,249	2,497	2,978	1,985	30,494	36,610	67,104	
Fullarton	4,618	3,926	3,028	3,569	4,690	4,837	4,217	3,822	5,354	5,076	43,137	23,350	66,487	Statute labor commuted.
Hibbert	1,673	2,244	1,906	2,159	2,470	2,907	1,558	2,402	2,477	1,896	21,692	23,630	45,322	
Logan	2,936	3,481	2,701	4,663	3,247	4,457	3,524	3,315	3,591	2,191	34,106	30,030	64,136	
Mornington	4,038	3,733	3,535	2,124	2,730	3,271	3,585	4,149	4,543	2,181	33,889	29,560	63,449	
Wallace	1,439	1,478	1,190	960	1,771	1,111	985	1,410	1,280	1,630	13,254	28,420	41,674	
											321,939	312,270	634,209	

Wellington.

Arthur	1,726	1,412	1,316	1,869	1,869	1,579	1,597	1,583	660	666	14,217	29,660	43,877	
Eramosa	1,694	1,846	1,943	2,157	2,278	1,969	1,726	1,709	2,100	1,575	18,997	25,560	44,557	
Erin	1,669	1,451	1,746	1,749	2,074	1,718	1,484	1,503	1,171	1,117	15,682	32,580	48,262	
Garafraxa West	2,829	4,059	1,960	2,373	1,553	2,250	2,032	2,978	1,527	1,619	23,180	32,410	55,590	
Guelph	1,671	1,885	1,710	1,572	1,908	1,641	1,584	1,391	1,524	1,690	16,576	17,630	34,206	
Luther, West	947	715	1,012	882	1,092	1,092	923	1,425	1,229	884	10,201	26,210	36,411	
Maryborough	2,342	1,840	2,008	2,057	2,868	2,934	2,639	2,945	1,465	2,150	23,248	38,110	61,358	
Minto	2,912	1,773	2,258	2,010	2,504	2,599	3,303	3,010	2,185	3,215	25,769	32,510	58,279	
Nichol	1,160	938	766	646	1,476	776	432	815	417	525	7,951	12,960	20,911	
Peel	2,396	2,524	2,202	2,700	4,313	4,149	1,836	2,257	2,352	1,528	26,257	53,080	79,337	

Pilkington	1,390	905	1,120	1,225	1,339	962	927	1,544	1,439	1,024	11,875	17,230	29,105	
Puslinch	1,800	1,480	1,619	1,004	1,650	1,433	2,320	1,527	1,621	2,313	16,767	39,340	56,107	
											210,720	357,280	568,000	
WATERLOO.														
Dumfries, North	2,648	986	502	1,197	924	889	1,886	1,257	732	725	11,746	28,510	40,256	
Waterloo	13,223	4,607	5,396	3,110	2,956	6,304	3,484	2,864	3,835	2,760	48,539	71,320	119,859	
Wellesley	4,810	3,409	2,787	1,433	4,014	4,222	4,806	4,232	3,927	3,272	36,912	59,560	96,472	
Wilmot	2,893	2,733	2,906	2,584	3,095	2,754	3,591	3,195	2,779	3,828	30,358	64,640	94,998	
Woolwich	1,899	1,615	1,706	1,521	2,989	1,881	2,072	2,335	5,552	1,893	23,463	41,940	65,403	
											151,018	265,970	416,988	
DUFFERIN.														
Amaranth	1,636	1,167	1,959	1,545	1,296	1,113	1,489	1,677	1,449	1,978	15,309	28,310	43,619	
Garafraxa, East	1,901	1,438	1,365	2,148	1,518	723	1,303	1,519	1,122	881	13,918	16,370	30,288	
Luther, East	1,194	1,609	1,805	1,247	1,617	1,525	2,501	1,051	1,288	1,759	15,596	17,650	33,246	
Melancthon	1,492	1,192	1,684	1,864	2,069	2,170	1,781	1,440	1,594	1,413	16,699	35,550	52,249	
Mono	2,727	1,964	1,713	2,361	2,400	2,730	2,563	2,890	3,466	1,334	24,148	32,100	56,248	
Mulmur	1,210	1,032	1,157	1,579	1,330	1,951	1,521	1,542	1,146	650	13,118	32,890	46,008	
											98,788	162,870	261,658	
LINCOLN														
Caistor	735	1,095	452	765	811	1,323	970	615	484	423	7,673	20,200	27,873	
Clinton	1,613	56	1,502	1,809	981	1,889	416	453	364	398	9,481	11,990	21,471	Statute labor commuted
Gainsboro	909	1,123	1,233	1,388	2,439	1,566	1,298	1,490	636	1,448	13,530	30,180	43,710	
Grantham	1,060	548	1,159	1,079	1,277	1,323	1,076	911	661	572	9,666	24,950	34,616	
Grimsby, North	1,784	1,435	1,775	1,247	1,138	1,778	2,114	798	574	428	13,071	18,770	31,841	Statute labor commuted
Grimsby, South	347	1,083	1,011	400	765	991	473	852	208	393	6,523	10,840	17,363	Statute labor commuted
Louth	2,189	1,167	1,935	975	1,389	1,568	1,117	260	409	1,277	12,286	24,840	37,126	Statute labor commuted
Niagara	1,459	1,256	1,199	1,493	1,839	1,893	470	1,424	583	635	12,251	16,280	28,531	Statute labor commuted
											84,481	158,050	242,531	
WENTWORTH														
Ancaster	5,089	3,119	4,823	2,513	4,543	4,035	3,136	3,670	4,559	8,556	44,043	34,450	78,493	Statute labor commuted
Barton	2,478	1,777	2,026	1,815	2,478	845	582	911	1,408	891	15,211	24,020	39,231	Statute labor commuted
Beverley	1,447	2,407	2,368	1,724	1,948	1,792	4,158	1,393	1,518	1,638	20,393	40,000	60,393	
Binbrook	1,717	1,055	1,334	452	610	585	515	702	325	604	7,899	16,890	24,789	Statute labor commuted
Flamborough, East	636	1,215	1,644	1,529	1,497	1,567	1,307	1,778	834	672	12,679	22,000	34,679	
Flamborough, West	1,429	1,109	1,686	1,212	1,199	956	3,410	1,887	1,218	770	14,876	20,020	34,896	

WENTWORTH.—*Continued*

Name of township.	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	Total.	Statute labor in 10 years, based on 1896.	Total value in 10 years.	Remarks.
	$	$	$	$	$	$	$	$	$	$	$	$	$	
Glanford	660	474	575	490	904	834	922	488	235	362	5,944	14,540	20,484	
Saltfleet	3,368	3,139	2,926	2,890	3,881	1,456	974	794	434	572	20,434	46,070	66,504	Statute labor commuted
											141,479	217,990	359,469	

HALTON.

Esquesing	1,600	2,387	1,512	1,160	2,628	1,571	2,365	2,340	2,016	2,273	19,852	33,560	53,412	
Nassagaweya	1,661	2,089	1,814	1,509	1,963	1,681	1,067	1,302	1,187	970	15,243	25,510	40,753	
Nelson	1,638	2,529	1,607	1,200	1,823	1,175	1,328	1,945	1,478	1,158	15,781	29,600	45,381	Statute labor commuted
Trafalgar	6,006	5,493	1,896	4,508	6,803	5,382	2,170	3,907	3,814	5,241	45,220	29,450	74,670	
											96,096	118,120	214,216	

PEEL

Albion	1,413	2,118	1,350	1,025	2,179	1,800	1,580	1,740	2,299	1,569	17,073	23,000	40,073	
Caledon	1,058	1,131	1,346	1,180	1,804	2,406	856	976	2,640	1,120	14,517	41,920	56,437	Statute labor commuted
Chinguacousy	4,297	3,936	2,256	2,060	2,165	3,017	2,040	4,040	3,570	2,192	29,573	39,470	69,043	
Toronto	3,888	4,184	6,733	8,287	5,749	7,157	4,116	3,415	2,484	2,171	48,184	57,870	106,054	
Toronto Gore	1,372	839	446	685	1,005	806	1,052	894	1,150	529	8,778	8,500	17,278	Statute labor commuted
											118,125	170,760	288,885	

YORK.

Etobicoke	6,018	3,089	4,266	5,668	4,564	3,756	5,839	7,860	4,655	2,647	48,362	23,730	72,092	
Georgina	937	782	778	467	703	446	583	272	986	709	6,663	19,210	25,873	
Gwillimbury, East	1,575	1,448	1,903	1,932	2,334	1,740	1,690	1,618	2,257	2,069	18,566	35,940	54,506	
Gwillimbury, North	385	500	555	493	592	458	541	526	563	793	5,406	21,120	26,526	
King	5,894	5,607	7,087	5,551	5,287	6,144	6,100	5,148	8,513	8,763	64,094	48,670	112,764	
Markham	4,003	2,453	2,832	4,058	3,982	2,984	3,219	4,092	2,917	2,323	32,863	49,340	82,203	
Scarborough	4,223	3,238	2,746	3,814	4,492	3,355	2,972	3,106	3,342	1,571	32,859	21,440	54,299	
Vaughan	6,289	5,600	6,473	4,962	5,526	4,532	6,133	4,456	7,651	6,215	57,837	35,160	92,997	[in part of township.
Whitchurch	1,468	1,550	1,803	951	1,277	1,062	1,777	1,538	1,442	1,213	14,081	35,340	49,421	Statute labor commuted
York	16,934	15,219	15,160	23,337	22,659	41,636	39,663	38,092	32,596	21,504	266,800	111,300	378,100	Statute labor commuted
											547,531	401,250	948,781	[in part of township.

Ontario.

Brock	3,235	2,690	2,316	1,956	2,128	2,755	2,497	1,796	3,659	2,760	25,192	34,860	60,052	
Mara	2,452	2,399	3,018	2,022	2,109	2,852	2,054	2,620	2,592	2,115	24,233	29,230	53,463	
Pickering	4,422	2,840	3,408	3,549	3,977	4,363	3,302	10,544	20,077	4,495	60,975	99,930	160,905	Statute labor commuted.
Rama	1,158	17,25	732	786	730	690	583	938	519	990	8,751	9,870	18,621	
Reach	1,652	1,995	2,054	1,692	1,693	1,560	2,000	2,356	3,144	1,877	20,023	42,300	62,323	Statute labor commuted.
Scott	1,250	1,458	1,763	1,483	2,137	1,906	2,028	1,855	2,301	1,838	18,022	20,020	38,042	
Scugog	177	246	347	248	274	105	217	214	255	130	2,213	5,620	7,833	
Thorah	1,362	1,897	1,482	1,603	1,539	1,664	1,342	2,075	2,066	1,468	16,198	15,640	32,138	
Uxbridge	1,463	1,587	1,500	1,035	1,146	1,186	1,705	1,212	1,863	1,957	14,654	29,610	44,264	
Whitby, E	1,523	1,511	1,898	1,836	1,745	1,793	2,093	1,776	5,856	2,050	22,081	33,470	55,551	
Whitby	1,408	1,296	1,597	922	1,282	1,296	1,355	3,462	13,593	1,015	27,226	20,910	48,136	Statute labor commuted.
											239,868	341,460	581,328	

Durham.

Cartwright	765	1,200	901	723	960	554	1,034	1,453	2,031	1,685	11,309	2,810	14,119	
Cavan	1,768	1,724	2,011	1,168	1,784	2,562	1,815	1,397	1,626	1,351	17,206	35,650	52,856	
Clarke	2,819	2,899	2,186	2,707	2,582	1,597	2,180	2,423	3,874	1,831	25,098	35,930	61,028	
Darlington	3,211	3,224	3,930	2,973	4,306	2,743	2,908	2,207	5,012	3,029	33,543	60,000	93,543	
Hope	1,881	2,461	1,674	1,765	1,720	1,371	1,973	1,885	2,839	1,423	18,992	40,830	59,822	
Manvers	974	2,030	1,221	636	1,140	1,656	1,229	1,249	1,420	1,111	12,666	35,070	47,736	
											118,814	210,290	329,104	

Northumberland.

Alnwick	737	511	571	480	560	734.81	482.27	797.05	743	809	6,425.13	7,980	14,405 13	
Brighton	1,356	1,459	1,397	826	1,402	1,119 00	842.00	1,077.00	1,303	1,082	11,863.00	37,360	49,223 00	
Cramahe	1,000	1,206	1,248	1,165	1,191	794.00	723.00	871.00	1,638	817	10,653.00	28,770	39,423.00	
Haldimand	2,238	1,577	2,817	2,405	4,290	2,565 00	3,312.00	3,012.00	4,456	3,894	30,566.00	47,210	77,776.00	
Hamilton	2,437	2,439	1,848	1,424	2,665	1,879.00	2,564.00	2,732.00	4,093	7,417	29,498.00	48,560	78,058.00	
Monaghan S	698	443	712	2,490	478	470.00	358.00	992.00	636	468	7,545.00	10,760	18,305.00	
Murray	1,529	1,219	1,184	892	1,294	1,392.00	926.00	1,208.00	2,057	866	12,567.00	40,530	53,097.00	
Percy	2,676	2,284	2,382	2,149	2,003	2,160.00	1,828.00	2,852.00	3,660	1,540	23,534 00	30,610	54,144 00	
Seymour	4,103	1,458	1,220	1,465	5,725	4,363.00	1,282.00	3,018.00	1,895	1,338	25,867.00	26,120	51,987.00	
											158,518.13	277,900	436,418.13	

Prince Edward.

Ameliasburg	424	843	230	312	553	451	993	492	648	545	5,491	28,070	33,561	Statute labor commuted.
Athol	8	11	36	4	93	184	127	25	3		491	21,330	21,821	
Hallowell	588	698	833	561	222	465	138	380	621	346	4,852	52,510	57,362	
Hillier	190	308	615	156	143	375	182	215	182	338	2,704	24,500	27,204	

Prince Edward — *Continued.*

Name of township.	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	Total.	Statute labor in 10 years, based on 1896.	Total value in 10 years.	Remarks.
	$	$	$	$	$	$	$	$	$	$	$	$	$	
Marysburgh N.....	116	134	159	85	157	406	371	171	73	26	1,701	23,570	25,271	
Marysburgh S.....	253	40	84	82	276	122	121	178	105	21	1,282	17,410	18,692	
Sophiasburgh.	304	405	408	269	321	344	416	329	464	250	3,510	31,660	35,170	
											20,031	199,050	219,081	

Lennox and Addington.

Adolphustown.	244	227	254	194	181	201	191	205	222	233	2,152	4,000	6,152	
Amherst Island.....	224	176	242	161	140	235	264	238	303	225	2,208	9,570	11,778	
Camden East.....	2,460	1,831	2,886	1,736	2,393	2,187	3,163	3,198	2,530	3,300	25,684	52,130	77,814	
Denbigh, Abinger and Ashley.....	156	112	575	462	480	463	458	423	942	680	4,751	5,270	10,021	
Ernesttown.....	1,360	1,622	1,671	1,161	2,290	2,310	2,491	2,170	1,625	2,628	19,328	34,750	54,078	
Fredericksburg N...	2,156	524	2,634	633	402	654	593	838	867	452	9,753	24,330	34,083	
Fredericksburg S...	947	922	600	678	1,063	671	856	651	464	542	7,394	10,290	17,684	
Kaladar, Anglesea and Effingham....	179	185	187	367	308	161	318	380	415	593	3,093	7,330	10,423	
Richmond.....	1,426	1,456	1,670	891	1,801	1,220	1,779	1,883	2,218	1,861	16,205	20,060	36,265	
Sheffield..	674	511	965	559	1,096	660	1,234	1,082	1,411	1,040	9,232	26,060	35,292	
											99,800	193,790	293,590	

Frontenac

Barrie.	42	20	61	17	34	39	96	18	34	27	378	3,850	4,228	
Bedford...	941	292	331	537	574	1,294	371	408	287	438	5,473	10,720	16,193	
Clarendon, etc.....	132	14	66	83	55	57	14	47	35	97	600	7,610	8,210	
Hinchinbrooke.....	870	613	580	412	441	908	515	507	314	390	5,550	11,470	17,020	
Howe Island	6	21	17	18	61	12	10	48	100	171	464	2,960	3,424	
Kennebec.....	499	194	301	175	630	323	174	173	324	470	3,263	7,460	10,723	
Kingston	1,025	804	1,018	911	1,134	658	899	791	1,099	914	9,253	24,460	33,713	
Longboro	562	742	726	886	868	908	711	601	650	640	7,294	17,150	24,444	
Olden	324	349	452	200	394	371	419	268	318	387	3,482	7,170	10,652	
Oso	270	195	270	197	373	277	123	118	203	292	2,318	6,120	8,438	
Palmerston, etc	158	214	65	58	43	186	119	246	124	252	1,465	6,760	8,225	
Pittsburgh	1,414	1,472	1,390	1,543	2,103	1,692	1,468	2,025	2,003	1,801	16,911	25,600	42,511	
Portland	867	755	971	800	1,095	1,485	1,431	975	1,129	1,716	11,224	6,560	17,784	
Storrington	371	450	455	127	457	448	359	273	300	166	3,406	17,950	21,356	
Wolfe Island	220	262	79	461	247	412	419	50	502	159	2,811	14,000	16,811	
											73,892	169,840	243,732	

Leeds.

														[in part.
Bastard and Burgess	647	438	663	270	395	230	230	258	378	300	3,809	31,230	35,039	Statute labor commuted
Crosby N.	677	534	490	1,031	676	564	432	406	342	398	5,550	9,000	14,550	Statute labor commuted.
Crosby S.	558	539	669	537	169	133	216	307	97	263	3,488	18,450	21,938	
Elizabethtown	2,795	2,875	2,733	2,861	2,564	2,527	1,835	2,225	4,144	2,758	27,317	46,540	73,857	
Elmsley South	388	585	453	356	527	416	317	348	262	436	4,088	6,690	10,778	
Kitley	1,109	509	680	626	738	736	1,256	593	623	876	7,746	19,370	27,116	
Leeds and Lansdowne, Front	3,947	3,410	2,635	2,968	3,477	3,114	3,100	2,654	11,770	2,937	39,952	35,000	74,952	
Leeds and Lansdowne, Rear	588	842	826	655	573	843	832	271	732	621	6,783	8,850	15,633	
Yonge and Escott, Front	2,841	649	738	709	676	751	904	821	985	920	9,994	24,680	34,674	Statute labor commuted.
Yonge and Escott, Rear	196	62	112	112	91	89	39	60	117	84	962	13,610	14 572	
											109,689	213,420	323,109	

Grenville.

Augusta	1,809	1,830	1,642	1,915	1,771	2,097	2,025	2,237	2,476	1,747	19,549	37,350	56,899	
Edwardsburg	1,046	1,633	1,159	1,850	1,227	1,852	1,591	2,133	1,638	2,026	16,158	40,480	56.638	
Gower, South	108	374	703	233	322	347	128	245	380	170	3,010	10,220	13,230	
Oxford	403	365	1,035	702	1,311	1,412	1,967	793	1,035	488	9,511	38,820	48.331	
Wolford	349	450	509	674	226	380	523	317	198	94	3,720	24,060	27,780	
											51,948	150,930	202,878	

Dundas.

Matilda	1,446	1,309	1,513	1,452	1,840	2,577	1,470	1,252	3,876	4,149	20,884	56,690	77,574	
Mountain	1,041	3,357	4,307	1,428	1,328	1,688	993	1,177	1,967	1,627	18,913	34,210	53,123	
Williamsburg	1,065	1,076	1,370	999	1,676	1,056	1,512	973	1,309	1,352	12,388	49,090	61,478	
Winchester	2,918	2,629	3,397	2,736	2,262	2,471	1,572	983	2,636	4,347	25,951	38,730	64,681	Statute labor commuted.
											78,136	178,720	256,856	

Stormont.

Cornwall	3,018	2,357	1,831	2,288	2,239	1,986	2,204	2,210	3,132	3,470	24,735	54,450	79,185	
Finch	1,103	1,712	2,847	2,681	3,099	2,243	2,676	2,653	8,438	3,689	31,141	31,710	62,851	
Osnabruck	1,078	662	1,575	1,536	1,179	1,225	1,467	1,386	1,832	1,970	13,910	55,990	69,900	
Roxborough	1,391	1,583	1,445	1,437	1,379	1,371	1,468	2,385	2,463	1,240	16,162	36,350	52,512	
											85,948	178,500	264,448	

Glengarry.

Name of township.	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	Total.	Statute labor in 10 years based on 1896.	Total value in 10 years.	Remarks.
	$	$	$	$	$	$	$	$	$	$	$	$	$	
Charlottenburg	2,614	895	1,532	2,126	2,399	7,865	7,220	2,572	2,518	2,188	31,929	49,990	81,919	
Kenyon	1,866	1,414	1,325	992	1,600	2,925	982	1,910	1,264	1,553	15,831	40,780	56,611	
Lancaster	1,541	848	2,022	936	1,535	1,480	1,376	1,516	1,446	848	13,548	30,140	43,688	
Lochiel	1,515	1,607	1,142	819	1,698	1,215	1,771	1,187	1,302	709	12,965	47,600	60,565	
											74,273	168,510	242,783	

Prescott.

Alfred	941	989	1,016	1,174	807	1,142	795	242	639	2,080	9,825	15,820	25,645	
Caledonia	525	1,477	763	520	533	632	582	693	387	313	6,425	15,660	22,085	
Hawkesbury, East	469	732	836	755	480	591	967	692	844	804	7,170	29,670	36,840	
Hawkesbury, West	267	199	414	367	177	358	326	384	232	473	3,197	13,760	16,957	
Longueuil	120	36	91	52	58	124	137	78	217	71	984	8,790	9,774	
Plantaganet, North	888	1,100	1,509	795	2,146	1,405	1,208	849	1,248	1,628	12,776	20,030	32,806	
Plantaganet, South	1,212	1,561	1,250	1,003	660	2,189	1,062	1,097	1,470	1,156	12,660	22,710	35,370	
											53,037	126,440	179,477	

Russell.

Cambridge	1,062	1,779	1,047	1,053	843	1,049	1,188	968	1,912	994	11,895	23,220	35,115	
Clarence	1,582	1,494	2,415	1,794	2,168	1,651	1,258	993	2,166	1 752	17,273	27,190	44,463	
Cumberland	2,564	3,185	2,747	3,778	2,865	3,493	2,480	1,769	1,973	787	25,641	31,040	56,681	
Russell	1,448	2,252	1,871	1,108	3,142	1,481	4,285	1,960	1,262	1,019	20,228	28,320	48,548	
											75,037	109,770	184,807	

Carleton.

Fitzroy	2,059	2,575	1,840	1,337	1,543	1,804	1,472	985	965	1,066	15,646	18,450	34,096	
Gloucester	1,869	2,348	2,435	1,199	2,053	1,911	1,439	1,143	1,099	1,053	16,549	42,940	59,489	
Goulbourne	1,187	1,171	1,148	1,453	1,191	753	701	679	917	494	9,694	25,280	34,974	Statute labor commuted.
North Gower	798	649	1,013	1,175	1,194	1,002	747	760	423	824	8,585	18,040	26,625	
Huntley	615	688	652	1,427	1,307	746	804	1,500	955	708	9,412	13,290	22,702	
March	393	372	162	380	366	284	192	253	372	191	2,965	9,210	12,175	
Marlborough	918	572	354	312	147	568	475	373	307	268	4,294	16,900	21,194	
Nepean	1,415	2,432	2,104	1,375	1,939	2,356	1,848	1,280	2,463	1,979	19,191	28,240	47,431	
Osgoode	2,848	2,496	1,837	1,747	2,011	1,437	1,449	1,268	1,622	1,653	18,368	44,800	63,168	
Torbolton	162	429	586	255	245	213	235	192	228	267	2,812	4,000	6,812	
											107,516	221,150	328,666	

Renfrew.

Admaston	254	479	1,602	1,065	451	336	294	255	433	152	5,321	13,690	19,011
Algona, South	10	4	31	10	10	58	30	23	25	75	276	3,350	3,626
Alice, etc	252	221	298	149	278	152	281	243	501	208	2,583	8,750	11,333
Bagot & Blythefield	552	706	142	447	375	445	370	531	236	3,231	7,035	6,450	13,485
Bromley	474	723	565	661	433	346	469	281	281	244	4,477	11,830	16,307
Brougham	.....	16	.....	4	.....	22	65	35	57	30	229	2,530	2,759
Brudenell&Lynedoch	176	171	43	186	26	141	140	12	51	77	1,023	6,360	7,383
Grattan	142	296	355	206	500	592	180	154	180	289	2,894	6,830	9,724
Griffith, etc	56	71	58	255	93	97	70	103	92	68	963	2,800	3,763
Hagarty, et al	186	357	160	216	384	505	669	127	217	120	2,941	7,550	10,491
Head, et al	.....	.....	.....	.....	.....	4	6	9	.....	85	104	3,160	3,264
Horton	269	495	252	368	180	451	153	241	201	123	2,733	10,360	13,093
McNab	3,864	1,431	585	821	3,214	1,022	1,130	725	2,136	391	15,319	22,920	38,239
Pembroke	161	317	136	117	210	29	50	.....	83	101	1,204	5,670	6,874
Petewawa	.....	107	6	62	132	227	169	124	37	188	1,052	3,630	4,682
Radcliffe & Raglan	139	65	79	225	94	64	122	150	161	255	1,352	4,470	5,822
Rolph, Buchanan & Wylie	9	19	50	16	43	91	8	45	60	50	391	4,840	5,231
Ross	536	853	691	554	721	959	942	319	313	203	6,091	12,000	18,091
Sebastopol	46	40	62	84	63	14	72	57	66	38	542	3,080	3,622
Stafford	157	243	209	262	133	106	267	173	211	94	1,855	7,350	9,205
Westmeath	2,240	1,104	1,282	1,117	1,095	514	1,011	925	828	2,471	12,587	16,070	28,657
Wilberforce	322	391	337	520	571	476	258	244	224	176	3,519	11,130	14,649
											74,491	174,820	249,311

Lanark

Bathurst	671	682	405	463	304	685	319	657	594	403	5,183	25,000	30,183
Beckwith	1,061	1,485	1,469	1,769	1,227	1,067	878	1,078	776	595	11,405	15,000	26,405
Burgess, North	168	98	159	91	204	107	123	133	109	159	1,351	6,580	7,931
Dalhousie, etc	799	587	800	829	783	871	928	1,037	891	479	8,004	17,340	25,344
Darling	65	355	190	70	91	84	123	93	163	171	1,405	6,640	8,045
Drummond	1,098	1,542	786	749	1,541	988	783	672	784	631	9,574	20,110	29,684

Lanark.—*Continued.*

Name of township.	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	Total.	Statute labor in 10 years based on 1896.	Total value in 10 years.	Remarks.
	$	$	$	$	$	$	$	$	$	$	$	$	$	
Elmsley, North	303	201	253	212	1,155	467	313	297	206	532	3,939	5,900	9,839	
Lanark	405	297	390	513	610	514	687	707	466	359	4,948	15,550	20,498	
Lavant	295	437	237	210	69	113	203	306	395	275	2,540	5,540	8,080	
Montague	423	779	672	662	576	246	1,008	545	308	268	5,487	20,380	25,867	
Pakenham	685	1,248	1,020	1,054	1,748	996	915	772	807	1,068	10,313	13,190	23,503	
Ramsay	1,250	1,571	1,875	1,592	1,955	1,328	797	976	1,263	1,153	13,760	21,510	35,270	
Sherbrooke, South	112	210	240	154	261	163	144	58	265	315	1,922	6,770	8,692	
											79,831	179,510	259,341	

Victoria.

Bexley	107	121	640	150		171	111	149	41	104	1,594	7,690	9 284	
Carden	207	79	83	284	165	193	353	628	148	162	2,302	4,800	7,102	
Dalton	74	137	258	194	190	223	235	220	221	116	1,868	3 520	5.388	
Eldon	1,551	1,359	1,771	950	1,649	1,428	1,237	1,694	1,273	766	13,678	25,860	39,538	
Emily	1,602	1,173	747	576	1,375	1,738	1,480	1,909	2,188	2,025	14,813	23,440	38,253	
Fenelon	888	2,247	816	702	567	612	699	509	926	724	8,690	23,680	32,370	
Laxton, etc	186	230	256	201	146	55	99	189	7	4	1,373	5,190	6,563	
Mariposa	1,218	1,839	2,558	1,647	1,387	2,135	1,187	2,074	2,251	2,004	18,300	40,710	59,010	
Ops	3,316	3,293	3,624	3,475	4,318	3,449	3,001	3,449	3,224	2,403	33,552	28,510	62,062	
Somerville	775	496	524	989	571	645	618	1,396	268	681	6,963	14,250	21,213	
Verulam	2,032	480	963	714	2,047	1,532	2,214	1,583	1,384	1,217	14,166	18,260	32,426	
											117,299	195,910	313,209	

Peterborough.

Asphodel	1,948	1,122	931	729	880	2,072	925	855	1,386	1,210	12,058	15,360	27,418	
Belmont, etc	838	791	795	738	310	688	1,082	1,485	1,709	1,399	9,835	10,410	20,245	
Burleigh, etc	93	109	116	104	284	423	325	244	270	298	2,266	2,300	4,566	
Chandos	83	157	273	240							753	5,900	6,653	
Douro	1,105	919	1,072	1,043	1,193	1,129	889	1,005	1,587	907	10,849	14,110	24,959	
Dummer	741	841	992	860	729	725	678	626	709	538	7,439	15,680	23,119	
Ennismore	112	370	307	514	390	96	479	634	503	446	3,851	8,370	12,221	
Galway, etc	6	20	55	25	185	141	261	240	81	174	1,188	3,300	4,488	
Harvey	414	327	557	312	549	374	389	328	362	635	4.247	8.340	12,587	
Monaghan, North	1,298	1,156	695	271	243	559	366	413	368	211	5,580	7,740	13,320	Statu

Otonabee	2,702	2,146	2,940	2,149	2,340	2,359	2,232	2,422	2,234	1,979	23,503	30,710	54,213	
Smith	1,810	1,782	2,311	1,574	1,630	1,377	1,460	2,514	1,543	1,507	17,508	28,720	46,228	
											99,077	150,940	250,017	
HALIBURTON.														
Anson and Hindon	99	138	128	40	84	107	88	16	185	147	1,032	1,410	2,442	
Cardiff	89	29	24	80	188	57	99	147	193	152	1,058	3,350	4,408	
Dysart, etc	1,045	701	1,036	689	782	1,831	728	1,068	700	574	9,154	8,790	17,944	
Glamorgan	53	89	135	42	63	132	41	107	170	299	1,131	2,410	3,541	
Lutterworth	151	134	108	111	108	283	141	98	94	121	1,349	3,330	4,679	
Minden	484	477	537	564	208	592	353	208	174	389	3,986	6,880	10,866	
Monmouth	62	73	66	8	61	38	36	48	102	33	527	3,060	3,587	
Sherborne, McClintock, Livingstone, etc	118										118		118	
Snowdon	197	263	288	523	179	486	419	189	175	207	2,926	4,500	7,426	
Stanhope and S	116	264	266	127	50	126	90	91	81	156	1,367	4,130	5,497	
											22,648	37,860	60,508	
HASTINGS.														
Bangor, etc	344	171	177	274	178	269	218	255	204	437	2,527	4,350	6,877	
Carlow [and Mayo]	231	224	322	223	604	233	143	138	[234	165]	2,517	3,770	6,287	Statute labor commuted.
Dungannon [and Faraday]	230	207	240	217	217	239	220	278	[490	539]	2,877	4,800	7,677	
Elzevir, etc	317	485	308	333	651	829	245	278	253	198	3,897	7,880	11,777	
Faraday	375	235	221	365	374	346	301	324			2,541	6,370	8,911	
Hungerford	1,378	1,237	793	705	1,209	1,220	1,889	1,315	1,491	1,578	12,815	34,240	47,055	
Huntingdon	336	263	284	325	257	243	207	233			2,148	22,270	24,418	
Limerick	226	446	327	690	742	583	804	761	239	435	5 313	2,590	7,903	
Madoc	627	493	592	493	651	808	523	532	509	462	5,690	20,600	26,290	
Marmora and Lake	683	693	603	448	849	1,406	997	865	455	609	7,608	14,420	22,028	
Mayo	238	247	231	220	213	258	165	146			1,718	2,670	4,388	
Monteagle and Herschel	358	359	298	409	129	650	950	462	670	456	4,741	10,350	15,091	
Rawdon	613	471	370	535	586	709	758	819	414	604	5,879	32,730	38,609	
Sidney	932	713	1,126	504	425	575	496	970	816	211	6,768	14,250	21,018	Statute labor commuted.
Thurlow	1,602	1,495	1,464	1,263	973	788	773	638	465	941	10.402	48,970	59,372	
Tudor and Cashel	393	422	460	478	497	528	416	366	475	313	4,348	4,280	8,628	
Tyendinaga	1,353	1,078	1,046	1,131	1,203	1,180	1,074	1,125	2,229	1,175	12,594	43,320	55,914	
Wollaston	434	352	440	468	332	330	428	260	303	398	3,745	3,540	7,285	
											98,128	281,400	379,528	

Muskoka.

Name of township.	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	Total.	Statute labor in 10 years, based on 1896.	Total value in 10 years.	Remarks.
	$	$	$	$	$	$	$	$	$	$	$	$	$	
Brunel	592	343	389	589	398	455	454	281	175	160	3,836	3,360	7,196	
Cardwell	195	110	112	97	41	138	206	145	62	49	1,155	3,970	5,125	
Chaffey	524	596	489	346	554	375	398	432	408	320	4,442	8,430	12,872	
Draper	325	607	851	427	600	493	609	575	404	955	5,846	7,080	12,926	
McLean & Ridout	250	221	390	357	158	179	121	94	78	248	2,096	5,610	7,706	
Macaulay	758	691	820	771	728	565	327	331	409	905	6,305	6,890	13,195	
Medora & Wood	669	892	601	873	675	363	460	559	683	240	6,015	8,330	14,345	
Monck	348	356	355	435	376	279	296	308	379	321	3,453	8,410	11,863	Statute labor commuted.
Morrison	347	220	284	331	337	516	189	416	334	92	3,066	5,890	8,956	
Muskoka	352	371	433	224	211	494	381	283	310	465	3,524	5,340	8,864	
Oakley	41	35	295	218	243	319	234	244	423	375	2,427	2,660	5,087	
Ryde	108	165	223	157	233	323	90	179	268	131	1,877	4,850	6,727	
Stephenson	506	906	625	741	950	767	746	491	384	472	6,588	7,980	14,568	
Stisted	382	527	351	307	320	460	276	410	517	422	3,972	5,720	9,692	
Watt	482	377	225	367	195	245	353	222	165	155	2,786	8,190	10,976	
											57,388	92,710	150,098	

Parry Sound.

Armour	341	317	157	117	204	198	279	212	71		1,896	9,530	11,426	
Carling	30										30		30	
Chapman	152	246	371	64	461	16	62	46	60		1,478	7,700	9,178	
Christie	230	123	38								391	3,720	4,111	
Foley	227	174	125	347	244	202	110	147	210	121	1,907	4,390	6,297	
Hagerman	119	53	86	113	127	20	30	29	26		603	3,730	4,333	
Himsworth, N	121	146	339	137	249	263	150	381	104	146	2,036	1,110	3,146	
Himsworth, S	342	206	183	187	118	179	487	48	73		1,823	12,710	14,533	
Humphrey	185	196	295	226	227	388	339	170	132	156	2,314	5,080	7,394	
Joly	69	6	43	137	123	28	107	106			619	3,830	4,449	
McDougall	272	249	375	324	342	179	275	195	206	248	2,665	4,240	6,905	
McKellar	357	104	751	452	468	198	246	191	180	240	3,187	5,860	9,047	
McMurrich	335	300	282	140	130	157	139	56			1,539	8,780	10,319	
Machar	101	166	171	234	146	45	120	134	29		1,146	8,700	9,846	
Nipissing	31	56	48	51	2	125	130	285		69	797	6,350	7,147	
Perry	349	315	119	208	560	362	287	282	161	42	2,685	12,810	15,495	

Ryerson	102	174	110	125	76	140	8	160	49	23	967	6,850	7,817	
Strong	60	283	342	90	259	230	93	469	254	74	2,150	7,640	9,790	
											28,233	113,030	141,263	

NIPISSING

Bonfield	259	318	319	348	74	25	77	226	103	180	1,929	6,880	8,809	
Caldwell	45	228	194	230	184	.....	.....	.....	.....	.....	881	4,190	5,071	
Calvin	10	49	48	50	34	41	31	.....	.....	72	335	4,130	4,465	
Cameron	17	10	14	... ..	308	.....	.....	9	10	72	440	1,870	2,310	
Ferris	70	100	13	26	19	.....	94	52	108	78	560	6,000	6,560	
McKim	367	359	653	841	478	307	1,355	3,283	5,095	2,839	15,577	2,300	17,877	
Mattawan	28	1	11	57	13	49	45	73	44	... .	321	2,570	2,891	
Papineau	3	25	2	24	17	61	44	31	30	135	372	3,850	4,222	
Ratter and Dunnet	186	62	... .	... .	.....	.....	.....	.....	.....	.....	248	... .	248	
Springer	186	441	454	1,605	1,122	784	1,237	503	822	576	7,730	5,360	13,090	Statute labor commuted.
Widdifield	181	212	240	137	238	165	183	219	1,551	3,347	6,473	2,880	9,353	
											34,866	40,030	74,896	

MANITOULIN

Assiginack	326	457	297	302	208	67	37	47	172	61	1,974	8,610	10,584	Statute labor commuted.
Billings	241	28	54	284	100	76	46	46	34	69	978	4,760	5,738	
Burpee	36	29	36	106	23	70	34	.....	.....	.....	334	1,390	1,724	
Carnarvon	55	263	57	75	198	25	92	312	214	42	1,333	3,000	4,333	
Cockburn Is.	18	72	150	2	230	112	135	217	162	500	1,598	1,600	3,198	
Gordon	164	450	175	102	93	194	44	116	125	154	1,607	2,790	4,397	
Howland	117	284	118	109	82	405	104	87	5	277	1,588	7,670	9,258	
Sandfield	6	50	25	.....	22	...	.....	3	68	34	208	1,970	2,178	
Tehkummah	57	131	29	82	49	108	72	30	36	41	635	3,730	4,365	
											10,255	35,520	45,775	

ALGOMA

Balfour	250	157	338	355	386	199	104	105	49	... .	1,943	3,710	5,653	
Drury, Denison and Graham	604	331	161	69	24	....	.....	.....	.....	.....	1,189	1,970	3,159	
Hallam	263	242	912	919	200	64	.....	.....	.....	.....	2,600	3,960	6,560	
Hilton	92	185	120	72	195	122	48	24	96	28	982	3,350	4,332	
Jocelyn	242	132	88	110	239	7	5	119	76	43	1,061	5,330	6,391	
Johnston, etc	415	169	294	257	621	44	67	125	23	....	2,015	6,570	8,585	

ALGOMA.—*Continued.*

Name of township.	1898	1897	1896	1895	1894	1893	1892	1891	1890	1889	Total.	Statute labor in 10 years, based on 1896.	Total value in 10 years.	Remarks.
	$	$	$	$	$	$	$	$	$	$	$	$	$	
Laird	47	131	125	137	194	44	104	.....	.....	.....	782	7,080	7,862	
Macdonald, etc	210	267	229	131	273	115	9	.....	.....	.....	1,234	.....	1,234	
Nairn	.....	18	9	.....	.....	.....	.....	.....	.....	.....	27	520	547	
Plummer, etc	254	299	163	362	120	110	143	.....	.....	.....	1,451	3,470	4,921	
Prince	5	5	.....	.....	.....	.....	.....	.....	.....	.....	10	.....	10	
Rayside	369	111	94	71	37	81	117	118	..	.....	998	2,580	3,578	
St. Joseph's	326	709	734	822	335	265	322	374	399	115	4,401	5,370	9,771	
Salter, etc	293	267	398	123	25	.....	.....	.....	.....	.....	1,106	4,460	5,566	
Sault. Ste. Marie	1,815	2,289	2,127	1,084	1,187	1,012	1,376	1,469	2,078	762	15,199	7,380	22,579	
Thessalon	256	199	358	282	186	101	192	1,002	340	33	2,949	6,100	9,049	
											37,947	61,850	99,797	

THUNDER BAY.

Neebing	384	825	506	496	2,646	7,728	7,594	19,457	3,472	3,823	46,931	.....	46,931	
Oliver	254	156	297	154	134	133	146	149	448	438	2,309	3,320	5,629	
Shuniah	297	235	780	42	475	715	529	7,815	3,244	2,669	16,801	.....	16,801	
											66,041	3,320	69,361	

RAINY RIVER

Alberton	.....	325	699	348	.....	.....	.....	.....	.....	.....	1,372	2,690	4,062	
Keewatin	781	240	482	124	110	1,476	291	717	1,668	1,463	7,352	.....	7,352	
McIrvine	623	.....	.....	.....	.....	.....	.....	.....	.....	.....	623	.....	623	
Vanhorne	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	
											9,347	2,690	12,037	

A Well-Designed Town Street.

REPORT

OF THE

ONTARIO

GAME COMMISSION

FOR THE YEAR

1900.

PRINTED BY ORDER OF

THE LEGISLATIVE ASSEMBLY OF ONTARIO.

TORONTO:

PRINTED AND PUBLISHED BY L. K. CAMERON

Printer to the King's Most Excellent Majesty.

1901.

WARWICK BRO'S & RUTTER, Printers and Bookbinders,
TORONTO.

REPORT

OF THE

ONTARIO GAME COMMISSION.

His Honor the Lieutenant-Governor of Ontario:

Sir,—We your Commissioners met on January 31, 1900, and were enabled to transact a good deal of important business. The Game Act having grown bulky by repeated enactments and amendments for a term of years it was deemed necessary to have it revised so as to consolidate, simplify and make it more perfect for the use of the public and those concerned. This was done very ably by Mr. H. S. Osler, a member of our Commission. The prepared Act as revised was submitted to the Commission and discussed clause by clause; the result being the adoption of the Act as passed by your Legislature at its last session, and of which we are justly proud, for though some points existing in the Act were overlooked, and which should be corrected at once, still on the whole the Act is in a much better shape than before. We have been striving to get an Act, which being nearly perfect, it would be unnecessary to make frequent changes and with which the public would get accustomed and not be in doubt as to its provisions. The present Act is such we trust and our hope is that it will suit the wants of the game interests of the Province for some time, although there are some defects at the present time which we would gladly see corrected, for instance, the system of deputy wardens has outlived its usefulness if it ever had any, and we would like to see in its place a system of licensed guides adopted, such as exists in the State of Maine. This plan has been found to work well there and your Commissioners do not see why such a system should not be adopted in Ontario. In fact, some such system will necessarily have to be adopted if we are to manage our great moose and caribou country to the advantage of the Province. It is said by those who have hunted over part of the territory, by surveyors and others, that Ontario has a territory extending from the Quebec bounday on the east to the Lake of the Woods on the west, and over two hundred miles in width, which is teeming with moose and in some districts caribou. If this be the case, and we have no reason to doubt it, we have here a mine of wealth which should be worked properly to be of the most benefit to the Province. The settlers in that sparsely settled country are in need of all the money which may be brought to them by moose hunters, and there are plenty of wealthy moose hunters, who are only too anxious to have a chance to take their outing each year in such a magnificent hunting ground. We, your Commissioners, are of the opinion that in view of the vast number of moose said to be in that country, the Province can afford to allow moose to be killed during a proper season each year, or at least every alternate year, instead of every third year as at present. Still, we think before this is done it would be well to institute an enquiry of Park, Fire, Wood and other Rangers, also Timber Inspectors as to the condition of the game in our northern districts. Having such a report, an intelligent moose and caribou season can be suggested for next year, and a system of licensed guides made compulsory. We also think that the licensed guide should have all the powers of a deputy warden. If this system be not made to apply to the whole of Ontario it certainly should be in force throughout the moose and deer districts. We have explained before that if a guide be licensed he is to a certain extent under control and responsible to the Government and instructions can be given him for the prevention of bush fires from careless hunters or campers, he can be instructed to report on the condition of the game resources of the districts where he hunts, he can see that those whom he guides do not break the law, and in fact he can report on many other things, which would afford a means of acquiring much useful information concerning that vast country.

We have frequently urged your Government to take such steps as will favor the influx of sportsmen, hunters and tourists, who in increasing numbers do each year seek

our magnificent and invigorating climate to pass a portion of each year in pleasure. It can hardly be estimated the benefit derived by the Province from these visits, which are looked forward to by the settlers in those northern districts as their best harvest of the year. Some idea of this traffic may be formed from a statement made to one of your Commissioners by a prominent passenger agent of the Grand Trunk Railway, that their railway had carried last season into the Muskoka district alone no less than 30,000 persons. It would be difficult to estimate the benefit derived by railways, steam boat companies, boatmen, settlers and others from this crowd of money-spenders. Every one of these visitors is an advertising agent and if they are treated properly and find what they want in reasonable quantity, there will not be the slightest doubt but they will return and bring their friends to enjoy our glorious country with its health-giving advantages.

There are thousands of wealthy men in the great cities to the south of us, who every season are looking for a suitable place to take their families to spend a few weeks, where they may be recruited in health and vigor by the enjoyment of a country where nature is still in a primitive state, a place entirely different from their city home. These men have plenty of money and they do not care where they spend it or how much, providing they get what they want, their money's worth in pleasure and may return to their business recruited in mind and body.

As an evidence of the growing interest in the importance of game and fish as a valuable asset of the Province or State, a large convention of prominent officials and sportsmen was called together at Montreal on February 2, 1900, by the Hon. Mr. Parent, Premier of the Province of Quebec, to consider many questions pertaining to the preservation and protection of game and fish. A very prominent subject was to devise means of harmonising the laws relating to these interests in all of the States and Provinces contiguous to each other, consequently representatives were present from a number of the States of the Union, New York, Vermont, Maine, New Hampshire and Massachusetts, as well as from Quebec, Ontario, New Brunswick, etc., etc., and a good deal of very good work done. Your Commissioners attended in a body, being very much in sympathy with the movement. This meeting seems to have been a revival of the International Fish and Game Conferences which your Commissioners instituted in 1892 when meetings of representatives from all of the States and Provinces surrounding the Great Lakes took place in New York, Poughkeepsie, Rochester, Hamilton and Detroit. The great object of the conferences, as in the Montreal Convention, was to harmonise the fish and game laws of the States and Provinces interested. A great deal of discussion was elicited and valuable resolutions passed as to seasons during which fish and game should be protected, etc. It may safely be said that much of the interest which has since become so prevalent in these subjects was excited by these conferences, and now the formation of the "North American Fish and Game Protective Association" bids fair to embrace a wider area in both territory and subjects and to accomplish most beneficial results.

The interest in game matters in the United States is very much aroused of late as its importance is more understood. One great Federal measure has been passed, viz., the Lacey Bill, which is intended to regulate the transportation and sale of game, and this will have a far reaching effect in the preservation of game, in fact no one measure can so protect the supply of game as the prohibition of its sale, and as there is a growing sentiment in favor of more stringent game laws and their more rigid enforcement, this should be remembered. Already the sale of game is forbidden at any time in Massachusetts, Pennsylvania, Ohio, Vermont, Oregon, Iowa and South Carolina, and in Ontario there is a growing sentiment that the sale of all game should be prohibited. The fact that more than one species of duck is almost exterminated ought to cause sportsmen and others to consider well the expediency of passing such a law. The Ontario Act prohibits the sale of some birds such as Woodcock, Grouse, Quail and Snipe, and we are asking your Government that Woodcock and Woodduck, on account of their almost entire disappearance, be absolutely protected for a term of years, and it is probable that the same treatment will have to be accorded to Mallard and Blue-winged Teal in the very near future. It will be for the consideration then of your Government whether as a protective measure duck should not at once be put upon the non-sale list.

The Act provides a penalty for shipping game in other than packages properly labelled and so constructed as to disclose the contents, but still we hear of evasions. It may be that the penalty is not sufficiently large. We cannot find any fault whatever with

any of the transportation companies for we have every reason to believe that they are very favorably disposed towards the protection of fish and game, and indeed when one considers the amount of traffic caused in connection with those interests in the country, it may be easily seen that it is of much concern to the said companies to preserve for as long a time as possible these great inducements for travellers. Consequently, your Commissioners are not slow to recognize the immense value of having the good-will of the transporation companies which can do so much to assist them in their efforts to have observed the laws relating to the protection and preservation of game and fish. There is another powerful factor which we feel should be encouraged to lend us more of its powerful aid and that is the Press. We feel that in our work everything depends upon the education of the public in that direction, for if there is not a proper public sentiment in favor of the aims we have in view the work must necessarily be uphill. However, thus far we have found little or no opposition from the Press, rather very much to be thankful for and we sincerely trust that it, which is the all powerful moulder of public opinion, will, in the future, deem it of sufficient interest to the whole country as well as to itself to assist your Commissioners as much as it can conscientiously in promoting the preservation of two of the most interesting resources of our highly favored Province. There is not the slightest doubt but that if any prosecution for infraction of the Game Act were published in the local press it would have a more deterrent effect than would the payment of double the fine imposed.

The Game of Ontario.

It may be taken for granted that within a very short time the only plentiful supply of big game will be found in the Dominion and we in Ontario have by far the greatest supply of any State on the continent, in fact the supply is almost as abundant as it ever was and this is owing largely to the wise restrictive laws enacted by your Government for its protection. The wanton slaughter which, no doubt, would have prevailed had hunters been allowed to kill at their pleasure has thus been prevented to a great extent and one of the best heritages of the public saved.

We hear the usual amount of grumbling about the deer season, that it is too short, etc., to suit everyone, but we have in view the protection of our stock of deer and as every one has a year in which to get ready for his outing and as the law only allows him two deer surely two weeks should be ample time in which to secure them. It is certain that the stock of deer cannot be increasing, and as it is difficult to form an intelligent estimate of the number of deer we have to draw from we are of the opinion that your Government should leave well enough alone. It has been estimated by the wardens, hunting parties and others, that the deer killed this season number about $1\frac{1}{4}$ deer to each hunter. If that be true it is simply marvellous how the stock of deer keeps pace with the number killed. Their were 4,200 deer licenses issued and 105 for moose. The Dominion Express Co. carried 15,000 pounds of venison and 16 moose, while the Canadian Express Co. carried 161,312 pounds of venison. Of course, this does not account for the deer killed by the settlers, Indians and Halfbreeds during the whole year nor does it account for the deer killed by those hunters who do not have to express their deer to their homes, nor for the deer killed by wolves, nor the wounded ones which get away and die, nor for those killed and eaten by the 5,000 hunters and their dogs during the two weeks they are in the woods. Taking all this into consideration there could not have been less than 8,000 or 9,000 deer killed during 1900, yet there are those who would wish to see the deer open season doubled in length. If hounding were disallowed then a season a month long might be considered, but to enlarge the season with all the facilities for slaughter made easy by improved guns, modes of travel, increasing number of hunters, would be simply a matter of a very few years when our deer would have gone the way of the buffalo, passenger pigeon, woodcock, etc. Before the buffalo disappeared the same sort of people lived and talked the same as now, they then contended that the buffalo could not be exterminated, and they so talk now of our deer, but it will be well for your Government to resist such pressure as may be brought by these selfish people to change the deer season.

Although we are aware that many moose are killed by so-called settlers, on the plea that they are needed for the support of their families, yet we know that much of the meat is sold to lumber camps. The poor half-breed or Indian who supplies this meat is not

nearly so much to blame in the matter as the manager of the lumber camp who holds out the inducement, and we trust that your Government will see that this illicit traffic in these valuable animals is stopped as much as possible by withdrawing the generous privileges granted to the settlers in all cases where they are found abusing these privileges, and by imposing such a fine upon the lumber firm encouraging such illegal slaughter as will effectively prevent its repetition.

Your Commissioners do not think that the moose country is at all adequately guarded, and owing to the rapidly growing importance and value of these animals another warden at least should be appointed to spend all his time in the moose and caribou district, with instructions to watch closely the interests of the Province and also to study the habits of these interesting animals in a state of nature, and make a report thereon in in answer to certain questions proposed by your Commission.

We have no hesitation in asking this since we feel that the amount of money expended in providing officers to supervise the game interests of the Province is ridiculously small compared with the interest involved. In fact the working of the Game Act has been far more than self-sustaining, and many thousands of dollars surplus are each year diverted from game protection when it might be used to such great advantage. We trust therefore that your Government will not demur to the appointment of at least another official warden for the big game country north of the C. P. R.

A number of sportsmen are asking that your Government provide an open season for moose each year, and they ask that it be at least two and a half months long, from September 15th to November 30th. We think that such a season would be altogether too long; that the stock of animals would soon be exhausted, if not exterminated. The season above mentioned was also voted as a proper season for moose and caribou by the North American Fish and Game Protective Association. To give some idea of the seasons now prevailing in moose countries, we give the following:—

Maine	Open season from	Oct. 15 to Dec. 1	— 47	days.
Minnesota	"	Nov. 5 to Nov. 10	— 5	"
Montana	"	Sept. 15 to Nov. 15	— 61	"
New Hampshire	"	Sept. 15 to Dec. 1	— 77	"
Oregon	"	July 15 to Nov. 1	—100	"
Washington	"	Sept. 1 to Nov. 1	— 61	"
Quebec	"	Sept. 1 to Jan. 1	—123	"
Quebec (caribou)	"	Sept. 1 to Feb. 1	—	"
New Brunswick	"	Sept 15 to Jan. 1	—107	"
Nova Scotia	"	Sept. 15 to Jan. 1	—107	"
Newfoundland	Protected to Jan. 1, 1906.			
Ontario	Open season Nov. 1 to 16.			

Now we have no hesitation in saying that, in view of the rapidly decreasing number of moose and caribou in all these countries except Ontario, the open seasons are altogether too long and too early, not only for the protection of the game but also for the pleasure of shooting it. It goes without saying that during September and much of the hotter parts of October, the animals spend a good deal of their time in the water to escape the flies, where they fall an easy prey to the sportsman, affording little sport. In such weather too a head could hardly be brought home before it would be spoiled. After due consideration of the meagre data which we have at hand, we do not feel competent to advise as to a proper moose and caribou season for Ontario; and we are asking that instructions be given to all Park, Fire, Wood and other Rangers, also Timber Inspectors to observe closely the habits of moose and caribou and report as early as possible, for the purpose of furnishing reliable data for the use of this Board to enable it to suggest an intelligent open season. At present we are inclined to think that the season should be thirty days long for each alternate year, beginning October 15th and ending November 15th, or from November 1st to November 30th. We would be very loth to see the open season for deer enlarged, rather would we see the use of dogs stopped, and consequently the barbarous killing of deer in the water also stopped.

Settlers Permits and Other Licenses.

We fear that the granting of settlers' permits is much abused, and that professional hunters, half-breeds and Indians are killing game as a regular means of livelihood during

the whole year, supplying villages, lumber camps and farmers with the meat much as butchers do in more settled districts. The intention of the Act was not to allow such work, but to allow the poor farmer settler to provide meat for the necessity of his family. We would, therefore, recommend that settlers' permits be only granted to bona fide farmers, and not to townspeople and villagers.

Wardens.

Much of the above grievance could be prevented if your Government would devote more of the revenue derived from the working of the Act for carrying out more stringently its provisions. Each year there is a surplus of several thousands of dollars which in all justice should be devoted to the better protection of game, else in a few years the revenue will cease from the simple fact that there will be no game to protect. The wardens, especially those in the northern districts have greater territories than they can possibly look after.

It is absurd to expect one man to police hundreds of square miles of woods, it is simply impossible to prevent the law being broken under such circumstances and we think that one or two more wardens should be appointed at salaries sufficient to ensure their whole time in watching over the big game for it is from that chiefly we derive our revenue. While we have the greatest game interests on the continent we only spend a paltry five or six thousand dollars in looking after it. The State of New York expended last year over $82,000, nearly ten times as much for the work of its forest, fish and game commission, having about fifty paid wardens receiving about $500 each annually. If our game is worth preserving and at this age it would be hard to find anyone opposed to the proposal, it is worth protecting well, for it is one of the most valuable assets of the Province and growing more valuable each year as other provinces and states become more depleted of game. We also contend that those who are most benefitted, the sportsman who hunts for pleasure, the settler who hunts to provide food for his family should pay the most towards protection but as it is now the sportsman is the only source contributing towards this object and we think that the settler could well afford to pay a small license fee for the right to use the property of the province for the support of his family. He would also be responsible to those having in charge the administration of the law and could be distinguished from the professional butchers of game. Perhaps the most efficient way to protect the big game would to prohibit the sale of venison in the deer districts or to license dealers there who might sell it. Some such plan will have to be adopted in the near future or the game will soon be a thing of the past.

Taxidermists' License.

There is one point in our law which has been overlooked, that is that every taxidermist should not only have a permit but he should also take out a license because they as a class reap more profit from the slaughter of insectivorous and other birds as well as game than any other class. In order to keep his business in existence he should be willing to pay his share towards the protection of the game and birds, etc. Besides all this if he were licensed our wardens would have the right to inspect his premises and to see that deer and other heads had their proper tags attached, without such a provision he is responsible to no one.

INSECTIVEROUS BIRDS.

We are sorry that though each year your commissioners have urgently drawn the attention of your Government to the inordinate destruction of these most valuable objects of nature through the issuance of permits to so-called naturalists and others, yet nothing has been done to lessen the number. It has been proposed to have taught in the schools a greater respect for bird life, thus discouraging the inclination of children to interfere with the nests and eggs. This is really commendable, for many boys wantonly rob birds' nests, who would not do so if told it was wrong and why. Your Government may take it for granted that probably each holder of a permit granted by it to collect birds' eggs

and skins is the centre towards which all the egg and bird collecting boys of his neighborhood flock to sell their finds, and it would be simply amazed if it could see at the end of the season all the eggs and skins taken by the fifty-four permit holders in Ontario. Even ten or twelve years ago no more beautiful sight was to be seen than that of our orchards in full bloom with hosts of busy, gaily colored warblers, oreoles and other bright colored insectiverous birds flitting here and there through the green leaves, snapping up the insects which the farmer, assisted by the Government, has now to kill by spraying at great expense of both money and time.

What have we on the other side of this important question as an offset for the loss of the birds. We have fifty-four naturalists, who probably have each a collection of hundreds of birds' eggs and birds' skins, each of the latter representing at least four or five spoiled to one fit to put in the collection. It is true that it may have been found during the year and properly reported that some birds, which usually bred in a certain latitude have not gone so far north or south this year to nest and some skin taken may have been taken a few miles out of its ordinary latitude, or it may have been found that some bird showed some variation in the color of a feather or feathers which had not been observed before. Some of the eggs may show a few more or a few less spots or markings than usual or one more or less to the sett. These may be all important and interesting questions from a naturalist's point of view but do they recompense the country for the loss of the birds and all their valuable assistance afforded to the agriculturist and horticulturist? Do we not pay too much for the information? Your commissioners think we do and that it is high time that these permits be discontinued to a great extent. We find much fault with the Americans for allowing spring shooting of game bird migrants and yet we are guilty of killing in thousands in the spring birds which are far more useful to the community than game birds. We are of the opinion that not more than ten permits should be granted in any one year in the province and these should only be granted to those who can guarantee that they shall be used for bona fide scientific purposes only. We are pleased to learn that the work of raising pheasants for stocking purposes has been more successful this year at the Rondeau Park than last year and that some birds will be available to put out in suitable localities. We trust that these will be placed under the care of gentlemen in the south western counties of the province who will see that they are fed and looked after for a time at least when it is expected that in those counties where there is usually but little snow they will be able to take care of themselves.

Appended hereto are letters from Mr. H. Gardiner of Rondeau Park and Mr. Bartlett, chief ranger of Algonquin Park. They are very interesting as indicating the work being done towards preserving the fauna of the country. It is a grand scheme and your government deserves great credit for thus early taking the opportunity of forming one of the greatest natural parks in the world, stocked with the original game. Too much credit cannot be given them for also setting aside the great Temagami Park containing in all 2,200 square miles. This too should be under the care of rangers who would see that no hunting is done there but that it be kept as the Algonquin Park, a great harbour of refuge for all sorts of game.

Appended hereto is also a financial statement of the year's work which shows a very satisfactory state of affairs.

ALGONQUIN PARK, January 19th, 1901.

G. A. McCALLUM, M D., Dunnville, Ont.

DEAR SIR,—Your letter of the 10th inst. to hand, having been sent to Canoe Lake in mistake.

Re the game supply of the Park, would say game of all kinds have increased rapidly. Moose are getting quite numerous, as many as seven having been seen in one day's canoeing. *Re* the rutting season for moose, I believe it commences about the last week in August and runs all through September. The weather is too warm for killing moose before the rutting season and their meat is not good during that time. I consider the best time for hunting moose is after the rutting season, in fact, after the first fall of snow. Virginia deer are very numerous in the Park and have become so indifferent to the presence of man that they come into the yards at the lumber mills and feed among the piles of lumber on the small second growth. They are to be seen everywhere. I keep a few tame at head-

quarters and breed them without any difficulty. The rutting season with them is a little later than with those in the wild state, about two weeks. *Re* beaver, it is almost incredible the way they have increased. A few years ago this wonderful animal was nearly extinct in this section, now every lake, pond, river and creek have beaver in them. Old chief "Big Canoe," who trapped here forty years ago, took a trip over his old hunting grounds last year and assured me he could not have believed the beaver had so increased had he not visited the park himself. It is generally supposed they raise four to six kittens yearly, but, from observation and enquiry, I am of opinion they seldom raise more than three. I know of no spot in America where these great workers can be studied to more advantage than in the Algonquin Park ; one can scarcely help admitting they must have reasoning powers. Otter are also very numerous and are often seen along the railway on the lake shores. Marten and mink are also numerous, especially mink. Bear, also, are to be found in many parts of the park and wolves are quite numerous, notwithstanding the fact that our rangers poison a great many. *Re* Mongolian pheasants, I have not been successful with those sent me last year, they only laid eight eggs altogether. I am confident they will not do here, our snow is too deep during the winter months. They stand the cold very well but, being ground feeders, they cannot possibly live in our woods during the long months of deep snow.

In expect a pair of caribou shortly from River Du Loup. I trust they will be a success. I should also like to try prairie fowl here and capercailzie. I feel confident they would succeed.

Re fish, our lakes are simply alive with the choicest salmon and brook trout.

We have during the past two years introduced black bass into several of our lakes, putting in over 1000 matured fish. These are secured from the Georgian Bay and brought here over the Canada Atlantic Railway in a large tank set upon a flat car belonging to the Company. We have been very successful in this venture, scarcely losing a fish, and have abundant proof that they are doing well in the number of small bass caught last year in our minnow traps. I am anxious to put in about 500 pickerel into some of our inland lakes

Foxes are not numerous in the Park.

Partridges were very scarce this year, last spring being wet I think a great many eggs were destroyed. *Re* the report that partridges were shipped from the Park to Montreal, there is no truth whatever in the statement. I have enquired of the express agents who state they have not received one consignment, and I am confident the birds could not be got in sufficient quantities to make it pay to do so ; another thing, there are only a few points from which they could do so, and these are right under our eye all the time.

Re trappers, we have a good deal of trouble with them, the beaver being so numerous it requires very close attention as one week will clear out a large pond, and of course trappers knowing this are tempted to risk being caught. However, last year we succeeded in making several arrests of the most daring of them and I trust in future we shall not be troubled so much.

You ask me for any view I have regarding game, etc. There is one thing I should like very much to see done and that is a thoroughly good, reliable bushman paid by the Government, to devote his whole time to the section of country north of the Canada Pacific, say from Mattawa to Sudbury and as far north as the head waters of White River which empties into Lake Temiscaming, for the sole purpose of preventing the slaughter of moose during the summer and fall especially. I know positively that a great number of these noble animals are yearly killed in that section. Three years ago my men reported to me seven carcases of moose lying along the White River in half a day's paddling. They come in to escape the flies and are very easily shot. I do not consider our present system good. Game wardens are not sufficiently supported and paid by the Government. In many sections it is very hard to get a conviction, even when supported with the strongest evidence, and on this account a good many cases are allowed to go unpunished that deserve the full penalty of the law. It is not the sportsman that is thinning out our game, but the man who takes advantage of the heat and flies, the deep snow and crust to slaughter the poor brutes.

Your obedient servant,

G. W. BARTLETT.

Rondeau Provincial Park,
G. A. MacCallum, M.D., January 18th, 1901.
Chairman Fish and Game Commission.

Dear Sir,—I received yours of January 9th asking for a short report of our work with the game in the park this season. Well, I have given a report to Mr. Thomas W. Gibson and I think I cannot do better than to give you the same report respecting the game. The deer are looking well for this time in the year. We have been feeding them hay and corn-chop for some time. We commenced feeding early in the season so that they would not run down in condition. The old doe just raised one fawn this season, which is a doe and is a beauty now; she raised a pair of twin bucks last year, and this fall one of them got caught in the wire fence and broke one hind leg and both its upper and lower jaws and we were compelled to kill it. I succeeded in getting the large wild buck that was brought from Long Point, into the enclosure again; he jumped over the wire fence, which is seven feet high, nearly two years ago and has been running wild in the bush on the park ever since. I worked with him for over a week before I got him into the enclosure; he is as fine a specimen as I ever saw. The pheasants are doing nicely, we have now about 160 altogether; 36 English and the remainder Mongolians. Early in the fall a weasel killed three old birds one night, and later on two or three young birds broke their necks flying against the wire netting, and the cock birds themselves killed a couple, and would have killed more if we had not had those single cock-pens (which we got permission to build this season) to put the one that was being tortured into until it would get strong again. I have lots of things to contend with in the work. I caught in the traps this season two weasels, five raccoons, six skunks and a number of chipmunks, and just last week two large horned owls in a trap set on the top end of a pole tied up beside the pheasant pens. Mr. Conover, of the Leamington Hunt Club, in talking with me about the pheasants, said that their club alone had spent over $100 in the protection of quail in the winter and close season, and that they would give the pheasants the same attention if they had a few pair to try what they could do with them. I have talked with members of other hunt clubs and they also think the idea a good one to get the pheasants established as a game bird in this part of the country. I think it might be a good plan to let, say two or three hunt clubs have about six or eight pairs each for a trial, and ask them to report as to whether they have increased satisfactorily. I would like to hear what you think about it. I think that about 30 Mongolians and 20 English will be a sufficient number of birds to keep for our work here the next season, leaving over 100 to dispose of in some way. I would like to turn a few pairs loose in the different clearings of the Park and give them another thorough trial in the bush. There are a good many partridge and some quail and lots of black squirrels, rabbits, and foxes are very plentiful, at least we see a great many fox tracks They are very hard to trap. We have had a good many trappers here who claimed to understand trapping foxes, but they did not seem to succeed very well. The most satisfactory way to hunt them here would be with hounds if it were not that three or four wild deer are running loose in the bush. There was a young fawn raised up in the bush this season; it was seen with a pair of old ones early in the season. Now this is probably a longer report than you are looking for, but I feel like explaining these matters to you, as you have heretofore taken an active interest in the Park, and I will ask you to just use the parts of it that you wish to put in with your report. Wishing your commission a successful year in their work.

I am your obedient servant.
Herbert Gardiner

REPORT OF THE CHIEF GAME WARDEN.

Toronto, December, 1900.

G. A. MacCallum, Esq., M.D., Chairman,
Ontario Game Commission.

Sir,—I herewith submit for your consideration and approval my annual report, and those of the Wardens in charge of the respective districts, with a resume of the work of the Commission during the year, which I trust will be satisfactory and receive the approval of yourself and colleagues.

Wardens.

In consequence of the Wardens in charge of districts being only expected to devote part of their time to the duties of their respective positions, their salaries ranging from $350 00 to $600 00 per year, complaints have been made of neglect of duty by parties not conversant with the question, or amount of remuneration. While this arrangement may have worked satisfactory in the early history of the Commission, the duties of the Wardens have increased to an extent requiring the whole of their time to enable them to effectively discharge the increasing duties of their respective positions. In fact, Warden Smith, in charge of the Eastern District has during the last two years devoted the whole of his time to the work of the Commission. Similar action is an absolute necessity in the Southern and Western Districts, to enable the Warden in charge to devote more time and energy to enforcing the game laws in their respective districts.

The Provincial Inspectors and Provincial Officers of the Attorney General's Department have rendered all assistance possible in having the game laws respected.

Deputy Wardens.

A large decrease in the number of deputy wardens on the list has resulted from the regulations of the Commissioners requiring all deputy game wardens to take oath of office, binding them to honestly discharge the duties pertaining thereto. There are only 209 deputy wardens on the list as against 527 in 1899, a decrease of 318, some have left the limits, others have declined to take the oath and have been struck off the list.

Game Laws.

Are becoming more popular and appreciated as they become better understood by the general public, but there are still a large number of residents and non-residents of the Province, who use every opportunity of evading or violating the game laws. The former take advantage of the very generous regulations in favour of Indians and settlers.

Many half-breeds, trappers and others, locate in the back woods, not for the purpose of settling on land, but to enable them to supply lumber camps with moose meat, and tanneries with hides. The word settler should be struck out of the settler's deer hunting permits, and the word farmer inserted, this would prevent professional men, tradesmen and other residents of towns and villages in the exempted districts, taking advantage of the elastic word settler, the assumption of which enables these men to evade the intent of the game laws. Many summer tourists, who claim to be gentlemen, violate the game laws or connive with others in doing so.

The practice of tourists illegally suppling their camps with fawns and partridge during close season, require drastic measures to stop it. If the collectors of customs at the different ports of entry were instructed to send the chief game warden, a weekly record of those paying deposits on guns and rifles brought into the Province by tourists, it would greatly assist in ending the illegal slaughter, above referred to. The laws of Ontario are very liberal regarding tourists and summer visitors, and they in return should certainly, while with us, respect these laws. We have no desire to intrude on the privacy of the camps and summer residences, unless by violating our laws the owners compel us to do so.

My reason for referring to these matters, is that tourists may be induced to stop encouraging the lazy class of poachers infesting the Muskoka and Parry Sound Districts during the tourist season.

Game in Ontario.

While duck shooting during the past season has been fairly satisfactory in some localities, as a rule the shooting has not been as satisfactory as in the past season. This is no doubt due in some measure to the mild weather during October and the early part of November. this enabling the ducks to stay in the open waters of the Northern Lakes several weeks later than usual.

I have no hesitation in saying that the alarming decrease in the number of wild fowl visiting our waters, is largely due to the short-sighted and barbarous policy of spring

shooting indulged in by our neighbors. Every female duck killed in the spring, when en route to their nesting grounds, means ten or twelve less to return to afford legitimate shooting in the ensuing fall.

Partridge and quail have afforded good sport, the non-sale clause to a large extent is responsible for this result.

Numerous attempts have been made during the past open season, by parties in collusion with some of the large fish companies, to establish an export trade in partridge, many of these attemps have been frustrated by the alertness of our Provincial Officers on the frontier. It is cause for regret, that residents of another country, doing a large and profitable business in the Province, should be parties to such unlawful transactions.

Until the sportsmen of the Province can agree on the question of skegs or monitors, and the distance boats or decoys should be anchored from the shore or rush line, it would be unwise to take further action in this matter, having such an important bearing on game protection.

Deer and Moose.

From the number of licenses and settler's permits issued, nearly the usual number of deer no doubt have been killed. In some localities deer are reported to be decreasing, in others hunters report deer as numerous as in past seasons.

Surveying parties report that deer are rapidly extending north, much further than ever seen before.

We may expect the usual controversy as to the merits and demerits of hounding and shooting deer in the water, alteration in the open season, etc.

From last season's experience of still hunting in a few of the neighboring states and the frightful loss of life resulting will not have a tendency to adopt still hunting in Ontario, when we take into consideration the total absence of accidents during the past open season, although there could not have been less than 8,000 or 9,000 hunters with rifles in the woods of half a dozen counties.

I am strongly opposed to any alteration in the present open season for deer. The unprecedented fine weather prevailing the first ten days was offset by the unusual severity of the last five days of the open season, making hunting with any degree of pleasure an impossibility.

Insectivorous Birds.

It is gratifying to note the increasing interest of agriculturists and others in the protection of these valuable and beautiful assistants. The permission to collect eggs should be eliminated from the permits.

From investigations made I am convinced that ninety per cent. of these collections are for mercantile purposes. These so-called collectors, it is alleged, hire boys to collect eggs for them, systematic nest-robbing is largely responsible for the decrease of insectivorous birds in the Province.

Fifty-four permits were issued in 1900, two less than in 1899.

Shooting Licenses.

90 non resident licenses, 4,200 deer hunting licenses, and 105 moose licenses have been issued to date, a few returns from issuers of deer hunting licenses have yet to be made. Hotel, restaurant and game dealer's licenses are working satisfactory.

Considerable discussion has taken place during the past year as to the necessity of enacting laws licensing guns. Such an Act would meet with the strongest opposition, and if passed would be very unpopular, in consequence of guns being private property. There should be little opposition to a general game license, the game being the property of the State.

This would have the same effect as a protective measure, without interference with private property. Few sportsmen would object to paying a small general license to kill game, realizing that the proceeds would be utilized to provide sport and recreation for them in the future.

All possible assistance has been extended to me by the railway companies, who have my sincere thanks for their active and effective assistance. I also desire to thank the

press of the Province for valuable assistance rendered and interest taken in the work of the Game Commission.

By Order-in-Council approved by His Honor the Lieutenant Governor, the 29th day day of December, 1900, the administration of the Ontario Game Protection Act, was placed under the supervision of the Hon. Commissioner of Public Works, from the 1st day of January, 1901.

We, who have taken an active part in the important question of fish and game protection, fully realize the debt of gratitude, sportsmen and the general public, owe the Hon. Mr. Gibson for his able and persistent efforts for nearly 20 years in overcoming all obstacles and placing fish and game protection on a sound and self-sustaining basis. Having had charge of the game department for nearly 6 years under Mr. Gibson's supervision, I would be deficient in gratitude, were I to omit sincerely thanking him for his uniform kindness and consideration extended to me. While regretting the consequences necessitating the change, we have the satisfaction of knowing we have been transferred to a worthy successor of the architect of the Game Laws of Ontario.

The usual statements and copies of Order-in-Council will be found in this report, with reports of wardens in charge of districts.

All of which is respectfully submitted.

By your obedient servant,

E. Tinsley,
Chief Game Warden.

Belleville, December, 1900.

E. Tinsley, Esq,
Chief Warden.

Sir,—I have the honor of submitting my annual report respecting the state of Game in this District.

Reports concerning the numbers of deer in the different localities usually frequented by them, are rather conflicting, but I have every reason to believe that notwithstanding the persistent pursuit of them by a very large number of hunters, they are holding their own, but under existing circumstances I regard an increase in numbers as an impossibility.

Owing to the Dominion Elections being held about the middle of open season, and the hunting parties being somewhat disorganized thereby, it has been difficult to obtain an estimate of the number killed, but from all the information I can gather, I do not think the number killed as large as last season.

As to the killing of moose I have no information, very few of the sportsmen caring to incur the expense of a trip to where there would be a reasonable chance of meeting with success.

Ducks were fairly plentiful in the various localities late in the fall, but the shooting in the earlier part of the season was very indifferent.

With regard to partridge I regret to say that there were evidences of a scarcity, which was very disappointing, and it is to be hoped that the coming season will be more favourable for this particular game.

The condition of fur-bearing animals remain about the same as former years.

Violations of the law have been of frequent occurrence, notably, evasions of the license clause, which are being investigated, the result of which will probably prevent a recurrence of the offence in the future.

I think the time has arrived when the area of country now exempt from the payment of a two-dollar license fee, might very profitably be reduced, and I shall be pleased to name some townships which, I think, should now come under license, should this suggestion be favorably considered.

I am glad to state that the regulation requiring Deputy Wardens to take an oath of office, has resulted in a large number of useless men dropping out, and an increased activity among those who subscribed to the oath.

I have the honor to be, sir,
Your obedient servant,

H. K. Smith,

Beaumaris, Dec. 31st, 1900.

E. TINSLEY, Esq.,
Chief Game Warden, Toronto.

Dear Sir,—Herewith I beg to submit my annual report relative to game in the district under my charge.

Deer—have in certain sections been reported as plentiful as usual, whilst in other localities a scarcity has been complained of. Owing to the increased influx of hunters during the past few years, the drain on the supply has been enormous, insomuch that I should estimate that 9,000 or 10,000 killed by the sportsmen and settlers combined, over the whole of the Province, would not be very wide of the mark.

Various suggestions have been made with a view to preserve our deer. The killing in the water is by many deemed a most destructive method of shortening our supply, whilst others advocate the prohibition of shooting *does*. Both these measures would be most difficult to enforce without a very large staff of officers. The doing away with hounding seems to be growing in favor with numbers of sportsmen, although it does not seem fair to many men who keep their dogs the year round for the purpose of a two weeks' hunt, and this period many take as their annual outing, and many true sportsmen enjoy the music of the hounds as much as the actual shooting of the game. Should circumstances warrant such, it might be well for to shut off hunting in certain sections for a period of years, say for instance all territory lying to the south of the Magnetawan River, Byng Inlet on the west and Algonquin Park on the east.

The falling off in numbers continues annually in the Muskoka Lakes neighborhood, in 1896 over 400 were carried by the Navigation Co., in 1897 over 300, in 1898 somewhat less, in 1899, 234, and in the present year 128; should this be an index to the country at large, there is only one conclusion to arrive at.

The laws I am pleased to say are as well observed as could be expected, and there is a marked falling off in prosecutions for violations this year.

The throwing open of one season for moose has been highly appreciated by many sportsmen, although as far as I can ascertain comparatively few have been killed.

Partridge—have as a rule been a fair crop, owing no doubt to the favorable nesting season.

It is most gratifying to find that true sportsmen endorse the actions of the Fish and Game Commission, and are ever ready to assist in the preservation of game to the best of their ability.

I am sir,
Your obedient servant,
JOHN H. WILLMOTT.

Dunville, Dec. 31st, 1900.

E. TINSLEY, Esq.,
Chief Warden.

Sir,—I have the honor to submit to you my annual report for this district.

The game of this district so far as can be learned, has been in as good supply as in former years, with the one exception of ducks, all varieties being much diminished in numbers. The general opinion among experts being that the summer being very dry and warm even through the open season, had the tendency to keep the duck very much later in their northern quarters, and when they did commence to arrive in the end of the season in somewhat larger flocks, they scarcely remained long enough on their inland haunts to do more than feed up and be off again, touching on the shores of our lakes for a halt of from one to two days.

It is also reliably reported that along the Atlantic coasts ducks have not been so plentiful in thirty years before, the weather being cooler in that direction might be the cause

Our native game and other birds are holding their own fairly well, and will I think soon commence to do much better, that we have got better command of the situation, through the Hare and Rabbit clause in the Game Act as amended last session.

The game laws are much better observed this year in my district than in the past and prosecutions are gradually on the decrease, while there are some petty infractions of the Game laws throughout my district, mostly by boys and very young men shooting for

practice and sport at anything they can see. It will be at some expense that this sort of sport could be stopped. I intend giving more attention to this shooting of insectivorous birds the coming season.

The clause in the Game Act changing the six months' limit in which information may be laid, back again to three months limit, is I think unfortunate, as there are cases that take a good deal of time to get on to, as well as other important reasons which impels me to very much prefer the old clause limit.

I also think deer coupons would be more satisfactory if made of one special color for foreigners, and another for our citizens. Wild geese have been fully as plentiful as other years.

I still recommend the last clause of my last year's report to your particular notice.

I have the honor to be
Sir
Your obedient servant,
J. A. GILL,
Warden.

E. TINSLEY, ESQ., WINDSOR, December 31st, 1900.
Chief Warden,
Toronto.

DEAR SIR,—I have the honor of submitting to you my annual report as Warden of the Western District.

Quail of the western district are still plentiful in spite of much hunting being done this fall there plenty of birds left.

The new law about killing rabbits without firearms gives good satisfaction among sportsmen generally. Of course there is some objection raised, they think it is not sport to kill cotton-tail rabbits without a gun.

As I have issued licenses to sportsmen from Boston, and from other eastern localities, and even to sportsmen from England, is sufficient proof to the public how important it is to use every proper means to protect the farmers' friend "Bob-White."

Duck-shooting on St. Clair Flats and Mitchell's Bay have not been as good as in former years, owing to the warm weather all through October and part of November, yet ducks could be seen for miles on St. Clair River and Horseshoe Bay, mostly broad-bills, red heads and blue-bills, and quite a few mallards. Canard Flats and Anderdon Marsh clubs had a few days of good shooting during the middle of November.

WILD GEESE.

I have never observed before the strange actions of wild geese at such a late date as December, between the 5th and 17th, for three weeks or more big flocks were seen between St. Clair Siding and Belle River, and many a goose was killed by the people of that vicinity. It has been many years since such opportunities have been offered in the month of December.

PARTRIDGE.

I believe that Camp Palmer (Colchester North) is justly entitled to be called the home of the partridge, it is the best locality I know of. The birds are very hard to shoot there, owing to the second growth of timber after the elm has been removed. I also find that I will have to give it more attention, as our deer are increasing rapidly in that district. They are often seen along "Foster Siding" a branch of the L.E. & D.R.R. Mr. F. H. Walker, owner of Marshfield lands, adjoining the Canada Co'y lands, has always instructed his foremen to protect all game, and to assist me to enforce the game laws. I hope the same will be done this winter.

It is estimated there are now about 25 or 30 deer in Essex, and everybody praises the Essex County Council, and the Government, for passing an Act protecting deer for ten years, only for this Act there would not be a deer left in Essex County. So far as I can learn there are no deer left in Kent County, as the "windfall" is getting rapidly cleared up for agricultural purposes, yet the beautiful bird "Wild-Turkey" still roams the woods between Port Alma and Middle-Road, but as our timber is becoming depleted very fast, I am afraid the turkey will go.

I shall go through that part of Kent in a few days, and any information I may gather regarding this matter will be sent you.

I am glad to report to you that the complaints of last July and August, made to the Government about game being shipped, and woodcock being killed and young ducks being slaughtered by citizens living in the neighborhood of Canard Marsh is without a particle of foundation, as I am able to prove by Deputy Warden Gignac, of Petite Cote, and caretaker Maloche, of Turkey Island, who is hired by the Anderdon Club to protect 1800 acres, including Canard River, the year round that not a shot had been fired during these months to the best of his knowledge, and no wild ducks within ten miles were seen by anybody.

Trappers are asking to have the Musk-Rat season changed, and have it fifteen days earlier, from 15th December to 15th April.

In closing my report I feel that I should mention to you, that the custom authorities along the lines of both rivers, deserve the thanks of the Game Commission, for the assistance given me in every particular,and every courtesy has been extended to me to enforce the laws, also the constables and deputy wardens deserve mention for the help they gave me.

Your obedient servant,
CHARLES QUALLINS.

COPY OF AN ORDER IN COUNCIL APPROVED BY HIS HONOUR THE LIEUTENANT-GOVERNOR, THE 21ST DAY OF SEPTEMBER, A.D. 1900.

Upon the recommendation of the Honourable the Attorney General, the Committee of Council advise that in pursuance of the provisions of section 18 of *The Ontario Game Protection Act*, the Committee of Council advise that the County of Lambton, in the Province of Ontario, be designated a County in which it shall be unlawful to hunt, take, pursue, kill, wound or destroy deer at any time of the year.

Certified,

J. LONSDALE CAPRÉOL,
Asst. Clerk, Executive Council.

COPY OF AN ORDER-IN-COUNCIL APPROVED BY HIS HONOUR THE LIEUTENANT GOVERNOR, THE 29TH DAY OF DECEMBER, A.D. 1900.

Upon the recommendation of the Honourable the Attorney-General, the Committee of Council advise that William Henry Casement, of Lakefield, in the County of Peterborough, Merchant, and William Henry Biggar, of the City of Belleville, in the County of Hastings, Esquire, one of Her Majesty's Counsel, be appointed to succeed Messrs. James Dickson and W. G. Parish as members of the Board of Game Commissioners, whose term of office has expired.

Certified,

J. LONSDALE CAPRÉOL,
Asst. Clerk, Executive Council.

COPY OF AN ORDER-IN-COUNCIL APPROVED BY HIS HONOUR THE LIEUTENANT-GOVERNOR, THE 29TH DAY OF DECEMBER, A.D. 1900.

Upon the recommendation of the Honourable the Attorney-General, the Committee of Council advise that from and after the First day of January, 1901, the administration of *The Ontario Game Protection Act* be placed under the supervision of the Commissioner of Public Works.

Certified,

J. LONSDALE CAPRÉOL,
Asst. Clerk, Executive Council.

List of Issuers of Deer-hunting Licenses, 1900.

J. H. Willmott, Beaumaris.
William Kirk, Bracebridge.
James Sharp, Burk's Falls.
J. A Johnson, Parry Sound.
W. H. Lawson, Park Head.
W. Climie, Listowel.
J. B. McWilliams, Peterboro'.
J. H. Brickwood, Kingston.
C. A. Richards, Tara.
John Nott, Port Perry.
William Fielding, Minden.
George Eady, Renfrew.
William Mathieson, Havelock.
S. M. Johnson, Arnprior.
F. J. Moore, Lakefield.
A. H. Taylor, Ottawa.
Thomas Beasley, Hamilton.
A. G. Brown, Stouffville.
T. Fraser, Norwood.
B. O'Hara, Madoc.
William Prust, Haliburton.
R. Cockburn, Sturgeon Falls.
Robert Rush, Echo Bay.
J. J. Bampfield, Niagara Falls.
William Carmichael, Powassan.
G. A. McCallum, M.D., Dunnville.
J. T. Robinson, Bobcaygeon.
B. J. Gilligan, Mattawa.
T. H. Lloyd, Newmarket.
T. G. Eastland, Apsley.
W. A. Field, Lanark.
Austin Moran, Dacre.
Peter Munshaw, Eugenia.
William Long, Kolapore.
F. C. Quallins, Windsor.
Charles Knapp, Lion's Head.
Edward Mosgrave, Kirkfield.
W. J. Leatherdale, Coldwater.
J. D. Rowe, Trenton
John H. Ramer, Markham.
Stephen Lake, West Lake.
William Lynn, Penetang.
B. C. Hubbell, Marmora.
H. W. Huff, Napanee.
M. Maybee, Madoc.
J. Cleak, Bancroft.
Charles Hart, Barrie.
F. J. Stewart, Stayner.
Benjamin Bryan, Lindsay.
A. R Ewing, Waterford.
A. D. Carley, King.
J. Y. Hammond, St. Thomas.
George Packham, Alliston.
W. P. McEwen, Almonte.
Esl Terrill, Wooler.
Henry Mathen, Brockville.
J. F. Gillespie, Picton.
D. Woodward, Cannington.
Duncan McMillan, Beaverton.
J. E. Gould, Uxbridge.
George Sootheran, Millbrook.
E. J. Breen, Uxbridge.
H. B. Harrison, Owen Sound.
Henry Taylor, Perth.
O. Bascom, Kemptville.
G. A. Pollock, Aurora.
John Wright, Flesherton.
N. D. McCallum, Carleton Place.
A. E. Sarvis, Sarnia.
James Martin, Hillsdale.
David Williams, Gooderham.
Dan Neilly, Bradford.
Duncan McFarlane, Red Bay.
A. H. Brandon, Gelert.
James Scott, Gooderham.
J. Austin, Kinmount.
James Reeves, Eganville.
H. K. Smith, Belleville.
R. K. Johns, Gravenhurst.
Peter Stewart, South Indian.
John Carter, Sundridge.
J. B. Sanche, Mayerville.
H. Rankin, Prescott.
Robert Watt, Brussels.
T. Upton, Sprucedale.
A. McDonald, Sundridge.
Andrew Hunter, Moorewood.
W. R. Craig, Russell.
John Elkington, M.D., Lavant.
B. B. Miller, Wiarton.
F. Iveson, Metcalfe.
Richard Cole, South River.
F. N. MacFie, Dunchurch.
Thomas Kennedy, Parry Sound.
William Campbell, Restoul.
J. P. LaBrash, Maple Island.
G. G. Thrasher, Stirling.
William Dafoe, Avon.
James Packham, Brampton,
George Bilton, Newboro'.
James Tedford, Dundalk.
John Scheich, Trout Creek.
Andrew Morton, Brantford.
G B. Holmes, Markdale.
W. H. Blair, Arthur.
P. K. Newton, Tweed.
C. E. Clancy, Enterprise.
S. G. Best, Magnetawan.
Charles Mills, Warkworth.
W. H. Johnston, Havelock.
P. D. McKercher, L'Orignal.
J. M. Collins, Bancroft.
D. McFarlane, Midland.
J. F. McDonald, Ingersoll.
T. W. Jackson, Orono.
H. B. Preston, Marmora.
J. B. Shrigley, Dorset.
A. Pattullo, Woodstock.
R. McConkey, Kearney.
J. S. Rogers, Toronto.
George Morrison, Callendar.
William Franklin, Riceville.
Chris. Nixon, Elmvale.
Karl Harttung, Berlin.
William Robertson, Wingham.
J. R. Gibson, Mallorytown.

List of Issuers of Deer hunting Licenses, 1900.—*Continued*

Benjamin Dixon, Unionville.
J. C. Gilchrist, Woodville.
W. H. O'Neil, Dorchester Station.
Nap. Longin, The Brook.
William Martyn, Mitchell.
Harvey Rogers, Cambray.
F. W. Dunn, Barry's Bay.
C. C. Gilbert, Seeley's Bay.
Arthur Monteith, Rosseau.
F. Atkinson, Ailsa Craig.
Alex. Fraser, New Hamburg.
W. C. VanLoan, Hagersville.
John Devitt, Waterloo.
Fred. Dupins, Embrun.
W. G. Otto, Vars.
A. W. Fisher, Stratford.
Walker Unwin, Bannockburn.
E. A. Garnhan, Straffordville.
B. S. O'Loughlin, Yarker
John Hines, Barrie.
A. E. Sliter, Morton.
A. W. Wood, Plevna.
John Stark, Hespeler.
A. Montgomery, Sebright.
C. W. Davidson, Mount Albert.
H. E. Snell, Toronto Junction.
H. P. Dwight, Toronto.
M. W. Price, Sharbot Lake.
William Waffle, Coboconk.
Harry Johnston, Coe Hill Mines.
J. A. Orr, Sudbury
John Critchley, Harlowe.
William Panton, Milton.
Frank J. Barber, Georgetown.
J. M. Clark, Smith's Falls.
P. Howard, Collingwood.
J. A. Ellis, Fenelon Falls.
John Regan, Orillia.
S. A. Huntington, North Bay.
P. M. Shannon, Port Carling.
J. Walmsley, Wiarton.
C. S. Gillespie, Campbellford.
John Chanonhouse, Eganville.
E. R. Emery, Eden Grove.
A. McFayden, Huntsville.
H. W. McDougall, Carp.
A. Ronald, jr., Minesing.
J. H. Prosser, Sutton, West.
E. M. York, Verona.
John Allard, Sault Ste. Marie.
J. E. Walsh, Ottawa.
T. Q. Biggar, Elora.
William Whetstone, Lakeside.
William Irving, Webbwood.
James Myers, Orchard.
R. E. Hamilton, Grand Valley.
W. T. Junkin, Fenelon Falls.
Lincoln Hutton, Bolton.
Hiram Hales, Brigden.
S. L. Doolittle, Berlin.
W. D. Black, Parham.
D. McRae, French River.
W. T. Gibson, Grimsby.
W. H. Stafford, Deseronto.
H. E. Kelly, Marmora.
George Hogg, Barrie.
Frank Motheral, Plattsville.
R. McCool, Drumbo.
W. J. Gallagher, Frankford.
Geo. W. Hare, Tilsonburg.
J. B. Doner, Creemore.
Peter McCallum, King.
Thomas Nichols, Hall's Bridge.
Isaac Allan, Mississippi Station.
J. Seivright, Burk's Falls.
R. H. Menzies, Burk's Falls.
W. G. Armstrong, Thornloe.
J. A. Gill, Dunnville.
J. B. Frick, Port Rowan.

Shooting Licenses Issued to Foreign Sportsmen, 1900.

Nicholas Savage, Detroit.
A. J. Commins, Akron, O.
F. S. Wanklyn, Montreal.
Charles Meredith, "
Peter McKenzie, "
A. J. Dawes, Lachine, Que.
John Nichols, Montreal.
J. E. Tracey, New York.
E. C Striffler, "
John T. Lord, "
B. Dominick, Jr., "
T. S. Hathaway, New Bedford.
B. N. Dutton, Boston.
G. G. Hammond, Nahant.
Horace White, Syracuse.
A. E. Brush, Detroit.
O. H. Payne, New York.
W. M. Barnum, "
W. B. Dickerman, "
Dean Sage, Albany.
C. A. Griscom, Philadelphia.
C. W. Burrows, Cleveland.
H. G. Dalton, "
G. H. Richards, Boston.
W. F. Leushner, Buffalo.
G. N. Smalley, Boston
H. W. Williams, St. Lawrence, N.Y.
M. M. Stanton, Detroit.
W. Bedore, St. Clair Flats.
G. H. Olderholt, St. Clair River.
A. J. Barge, Cleveland.
F. Marks, Wyandotte.

SHOOTING LICENSES — *Continued.*

J. H. Bishop, "
E. H. Nelson, Detroit.
F. H. Newberry, "
S. F. Miller, "
John Nickles, "
A. N. Rantoul, Boston.
E. F. Tappy, Detroit.
C. Campbell, "
J. B. McKay "
A. Humprey St. Clair River.
F. W. Eddy, Detroit.
F. H. Walker, "
W. J. Highman, "
S. Baugh, Detroit.
F. F. Delaney, Detroit.
G. W. Belden, Buffalo.
Andrew Mills, New York.
Gen. W. M. Healey, New York.
W. P. Clement, "
James McAfee, Pittsburg.
S. H. McKee, "
G. C. Hartman, "
A. W. Bayliss, Buffalo.
G. W. Davis. New York.
W. H. Nichols, "
L. G. Northrup, Buffalo.
Geo. McArthur, "
Geo. A. Farmer, Montreal.
Judge Hickey, Lockport.
W. D. Thompson, Detroit.
R. A. Demine, Baltimore Bay.
Steve Bowling, Detroit.
H. G. Mereoith, "
F. E. D. Philpot, Lynn Regis, Eng.
J. H. Farley, Cleveland.
L. E. Belkay, Navill, Mich.
H. H. Baillie, Caro, Mich.
D. H. Moloney, Sault Ste. Marie, Mich.
Dr. H. Vreeland, Jersey City.
Chas. M. Vreeland, "
J. E. Farnum, Philadelphia.
Alex. McLaren, Buckingham, Que.
S. D. Warren, Boston.
T. H. Shelden, New Haven.
F. L. Crawford, Brooklyn.
T. J. Price, "
Dr. E. J. Myer, Buffalo.
J. Nichols, "
C. E. Tousley, Cleveland.
A. Heminway, Boston.
W. C. Loring, "
A. T. Cabot, "
F. H. Tower, Wilson, N.Y.
O. C. Hirtzel, North East, Pa., U.S.
G. L. Farnum, Philadelphia
Louis Cabot, Boston.
H. G. Higley, Cleveland.
John Stanley, "

LIST OF DEPUTY WARDENS BY COUNTIES.

Algoma.

Allard, John, Sault Ste. Marie.
Black, Andrew, Richard's Landin
Curran, Thomas J., Murillo.
Harris, W. J., Jr., Day Mills.
Higgins, Wm., Thessalon.
Emmons, Maurice, Rat Portage.
McKewen, S. R., Tehkummah.
Norquay, Thomas, Manitowaning.
Piper, D. J., Slate River.
Rowan, William, Thompson.
Rush, Robert, Echo Bay.
Whalen, James, Port Arthur.

Addington.

Clancy, C. E., Enterprise.

Bruce.

Armstrong, Joseph, Kinloss.
Henderson, James, Kincardine.
Hogg, George, Paisley.
Hogg, W. W., Paisley.
McDonald, Donald, Ripley.
McFarlane, Duncan, Red Bay.
McIver, John, McIver.
Pratt, John, Kincardine.
Richards, C. A., Tara.

Brant.

Montgomery, Chas. A., Brantford.
Willits, P. B., St. George.
Telfer, W., Paris.

Carleton.

Taylor, A. H., Ottawa.
Milford, Robert, Carp.

Durham.

Jackson, Thos. W., Orono.

Elgin.

Chute, E. A., Lakeview.
Fairbrother, Wm. T., St. Thomas.
Fowler, Jacob, Fingal.
Hopkins, John, St. Thomas.
Huffman, J. M., Aylmer.
Kirkpatrick, D. A., West Lorne.
Miller, Robert, Lawrence Station.

Essex.

Banks, Anthony, Harrow.
Cornette, Chas. F., Belle River.
Gignac, Louis, Gordon.

List of Deputy Wardens by Counties.—*Continued.*

Hugill, William, Staples.
King, George, Ruthven.
Lindsay, William, Comber.
Price, J. E., Pike Creek.
White, James H., Pelee Island.

Frontenac.

Brickwood, J. H., Kingston.
Dowker, William, Harrowsmith.
Gates, George, Westbrook.

Grey.

Campbell, Malcolm, Hanover.
Hickling, Jonathan, Maxwell.
Holmes, Geo. B., Markdale.
Long, William, Kolapore.
McKnight, Thomas, Dornoch.
Munshaw, Peter, Eugenia.
Myers, James, Orchard.
Siegmann, Louis, Neustadt.
Tedford, James, Dundalk.
Simmons, M. H. Oxenden.
Weber, John, Vandeleur.

Glengarry.

Clark, James, Dominionville.
Dickson, D. A., Williamstown.
Dunn, Ambrose, South Lancaster.

Hastings.

Foster, Alexander, Egan Creek.
Hubbell, B. C., Marmora.
Reid, George, Madoc.
Unwin, Walker, Bannockburn.

Halton.

Crawford, Murray, Campbellville.
Racey, C. S., Milton.

Huron.

Anderson, J. A., Seaforth.
Creech, James, Exeter.
Currie, John, Goderich.
Gill, John, Exeter.
Naftal, C. J. S., Goderich.
Rider, Joseph, Clinton.
Sands, John, Saltford.
Scott, Alexander, Westfield.

Haldimand.

Farrell, John, Cayuga.

Kent.

Boles, T. Gordon D., Chatham.
Causgrave, Michael, Selton.
Dagneau, David, Chatham
Dewar, R. G., Mitchell's Bay.
Eberts, F. G., Chatham.
Fisher, Byron, Wallaceburg.
Gardiner, Herbert, Morpeth.
Kime, George, Big Point.
MacGregor, J. D., Chatham.
Smith, W. D., Tilbury.
Southgate, R. M., Wallaceburg.

Lambton.

Chambers, Thomas, Muir's Landing.
Hales, Hiram, Brigden.
Kennedy, Joseph, Port Lambton.
Meyers, S. H., Port Lambton.
Sarvis, A. E., Sarnia.
Taylor, J. P., Watford.
Witty, George H., Wyoming.

Lincoln.

Kennedy, Chas. A., Smithville.
Randall, John, Grimsby.
Raynor, John, Niagara.
Furminger, S. D., St. Catharines.

Lennox.

Huff, Hiram W., Napanee.
Walker, Nelson H., Wilton.

Lanark.

Farnall, William, Smith's Falls.
Gardner, W., McDonald's Corners.
Mair, David, Lanark.
Patterson, J. E., Christy's Lake.

Leeds.

Bilton, George, Newboro.
Brown, Harry, Gananoque.
Gibson, John R., Mallorytown.
Griffin, William, Sand Bay.
Mathen, Henry, Brockville.
Murchie, Robert, Gananoque.
Smith, Justus B., Charleston.

Middlesex.

Forman, J. J., Dorchester Station.

Muskoka.

Berry, William, Walker's Point.
Brooks, Edgar J., Huntsville.
Buttler, C. T., Point Kaye.
Crompton, W. B., Aspdin.
Draycott, F. W., Rosseau.
Grenke, Gustav, Rosseau.
Hollingshead, W. M., Huntsville.
McFayden, Archibald, Huntsville.
McLean, Neil, Morrison Lake.
Stevens, George, Shannon Hall.
Stromberg, Nils, Torrance.

List of Deputy Wardens by Counties —*Concluded*,

Thornton, Richard, Huntsville.
Traves, E. H., Fraserburg.
Traves, Thomas, Fraserburg.
Weir, James, Utterson.

Norfolk.

Dowswell, John, Lynedoch.
Ewing, A. R., Waterford.
Kramer, Conrad W., Delhi.

Northumberland.

Cock, Louis, Campbellford.
Diamond, Thomas, Cobourg.
Merrian, H. N., Harwood.
Terrill, Esli, Wooler.

Nipissing.

Armstrong, Will G., Thornloe.
Huntington, S. A., North Bay.
Maloney, Theophile, Sudbury.

Ontario.

Crandall, M. L., Port Perry.
Frankish, F. M., Uxbridge.
Goodman, C. H., Cedardale.
McGrath, Michael, Brechin.
Miller, Arthur, Seagrave.
Pettet, George W., Port Perry.
Steele, John, Uptergrove.
Sutcliff, James, Prince Albert.

Oxford.

Almas, A., Folden's Corners.
Huntingford, Henry, Woodstock.
Thornton, J. B., Woodstock.
Watters, William, Drumbo.

Parry Sound.

LaBrash, J. P., Maple Island.
LaBrash, W. C. Maple Island.
Mitchell, Robert, Cecebe.
McAmmond, William, Dunchurch.
McDonald, Archibald, Sundridge.
Russell, John F., Loring.
Welch, C H., Sundridge.

Prince Edward.

Sprague, G. G., Demorestville.

Peterborough.

Moore, F. J., Lakefield.
Nichols, Thomas, Hall's Bridge.

Prescott

Lefaivre, Hercule, Lefaivre.

Peel.

Rayburn, John, Caledon.

Perth.

Climie, W., Listowel.
Fisher, A. W., Stratford.

Renfrew.

Johnston, S. M., Arnprior.
Kennedy, John; Pembroke.
Yuill, Walter, Calabogie.

Russell.

Longtin, Nap, The Brook.
Stewart, Peter, South Indian.

Simcoe.

Coombs, John, Lovering.
Doner, J. B., Creemore.
Hines, John, Barrie.
Hogg, George, Barrie.
Howard, Patrick, Collingwood.
King, Jr., John, Penetanguishene.
Loudon, H. J., Penetanguishene.
McFarlane, Duncan, Midland.
Pratt, William, Midland.
Primrose, Alexander, Apto
Ronald, Jr., A., Minesing.
Ross. Joseph, Cookstown.
Somerville, David, Jack's Lake.
Regan, John, Orillia.
Wood, P. V., Port Severn.

Victoria.

Bryan, Benjamin, Lindsay.
Junkin, W. J., Fenelon Falls.

Welland.

Effrick, R. M., Effingham.
Neff, Peter, Marshville.
Nixon, J. C., Welland.

Wentworth.

Dilts, Wm. W., Attercliffe.
Graham, Harry, Hamilton.
Hazell, John, Hamilton Beach.
Morden, Eli L., Greensville,

Waterloo.

Devitt, John, Waterloo.
Fraser, Alexander, New Hamburg.
Gress, Philip, Blair.
Hall. James, Hawksville.
Harttung, Karl, Berlin.
Menger, William, St. Jacobs.
McMaster, Thomas, Hespeler.
Stark, John, Hespeler.

Wellington.

Barber, R. H., Guelph.
Biggar, T. Q., Elora.
Landonie, Louis, Dracon.
Palmer, Edward T., Guelph.
Robertson, Colin, Hillsburg.
Stewart, Donald, Crieff.
Smith, George, Eden Mills.

York.

Blea, Daniel, Humber Bay.
Tidsberry, J. L., Coleman.

Quebec.

* Crowley, E. B., Montreal.
* Finnie, Dr. J. T., Montreal.

* These officers have been especially appointed to enforce the game laws on Lake St. Francis, which is partly in Ontario and partly in Quebec.

District or county.	Name of prosecutor.	Date, 1899.	Name of offender.	Address.	Offence charged.
Algoma ...	Andrew Black.	... .	Ben Garside.....	....	Killing deer without license.
	do	.....	Fred Kent	.....	do
	do	... .	Robert Brandon	. .....	do
	do	....	Robert Thompson ..	....	do
	do	.....	Chas. Nicholson	.....	do
	do	.....	William Vernie	....	do
Bruce.....	M. H. Simmons	April 1..	Dr. R. M. Fisher...	Wiarton.....	Killing hares .....
Essex.....	William Lindsay	Nov. 19..	Thomas Trepanier ..	Rochester Tp...	Shooting on Sunday.
	do	do 26..	Morris Schram	do ...	do
	C. F. Quallins	Oct. 13..	Joe Hamelin	Fighting Island.	Trapping muskrat out of season.
	do	do 13..	Joe St. Clair	do	do
	do	do 24..	Burt Brown.....	Mount Clemens, Mich.	Shooting without license.
Frontenac.	J. H. Brickwood ...	Mar. 28..	C. W. Reynolds	Buckley.....	Hunting deer without license.
	do	April 1..	Jas. Jefferies.....	do	do
	do	do 1..	Ben. Scales	do	do
	do	Feb. 22..	Sam. Seero.....	Collins' Bay....	Putting out poison .
	do	June 20..	J. Border	Verona.	Illegal fishing .....
	do	Nov. 30..	Andrew Howard....	Collin's Bay....	do
	do	Sep. 12..	J. M. Moon...	New York	Shooting without license.
Grey.....	Geo. B. Holmes.....	June 23..	Newton Wilson.....	Redwing	Shooting hares in close season.
	do	Dec. 4..	John Camp	Markdale	Hunting deer without license.
Hastings ..	B. C. Hubbell	Oct	Oliver Cooper	Blairton	Hounding deer .....
	H. K. Smith	Jan. 6..	Chas. McDougall....	Ompah	Killing deer in the water.
	do	do 6.	Wm. Sheppard	Smith's Falls...	do
	do	do 6..	Duncan McKay	do ...	do
	do	do 7..	C. C. Gilbert	Seeley's Bay....	do
	do	do 7..	Robert Moulton ...	do	do
	do	do 7..	Cornelius Brady....	do	do
	do	do 7..	S. B. Jacob	Folger	do
	do	do 11..	John Hames	Ompah	Hunting in close season.
	do	do 11..	Andrew Lundey...	do	do
	do	do 25..	Reuben Smith	Olden	do
	do	do 25..	William Smith	do	do
	do	do 25..	White Smith	do	do
	do	do 25..	John Smith	do	do
	do	do 25..	William Smith	do	Killing more than two deer.
	do	do 25..	do	do	Hunting on Lord's Day
	do	do 25.	Reuben Smith.....	do	do
	do	do 25..	Wm. E. Barr..	do	Hunt'g deer on water
	do	do 25..	Edward Barr.....	do	do
	do	do 25..	C. Scott	Kennebec	do
	do	do 25.	John H. Babcock...	do	do
	do	do 25..	John Wood	do	do
	do	do 25..	Daniel Scott	do	do
	H. K. Smith	Jany. 28..	R. B. Rogers	Peterboro'	Hunting deer on water.
	do	Feby. 27..	Thaddeus Reynolds.	Buckley.....	Hunting without license.
	do	Mch. 10..	James Smith	Faraday	Killing deer in close season.
	do	do 10..	Frederick Smith....	do	do
	do	do 10..	Samuel Edwards....	do .. .	do
	do	do 10..	George Edwards....	do	do
	do	do 10..	Levi Edwards	do	do
	do	do 10..	Wm. Lake	do	do
	do	do 10..	Arch. Baumhour ...	do	do

FOR YEAR 1899.

Was offender arrested or summoned.	Where tried.	Name of Magistrate.	Result of cases.	Nets, traps or illegal appliances seized during the season of 1899.
Summoned....	Richard's Landing.	J. J. Kesser, Chas. Young.	Fined $20	Seized one deer skin.
do ..	do	J. J. Kesser.....	do $5	....
.....	.....	....	Not proven ...	....
....	....	....	do	....
.....	.....	.....	do	....
.....	....	.....	Skipped out	....
Summoned....	Wiarton.....	B. B. Miller.....	Fined $10 & costs.	.....
do ..	Tilbury West...	Hugh Lindsay....	do $5 do	Gun seized, returned by order of magistrate.
do ..	do	do ...:	do $5 do	do do
Arrested	Windsor	Alex. Bartlett....	Let go on suspended sentence.	Fur seized.
do	do	do ...	do	do
do	. ...	.....	Gave bonds for appearance.	.....
Summoned....	Kingston.....	H. K. Smith.....	Fined $20	.....
do ..	Verona	John Donley	do $20	....
do ..	... .	.....	Never came to trial	.....
do ..	Collin's Bay....	H. K. Smith	Fined $5	....
do ..	Harrowsmith...	John Donley	do $10	....
do ..	Catarsqui ..	John Simpson....	do $10	.....
Arrested	Kingston	John Duff.....	Let off by taking out license.	.....
Summoned ...	Heathcote	Geo. Cruikshanks.	Fined $10 & costs.	Destroyed 1 trap and 9 snares.
do ..	Markdale	R. S. Rae	do $24 do	.....
do ..	Marmora	B. C. Hubbell....	Acquitted	....
do .	Lavant	H. K. Smith	Fined $20	... ...
do ..	do	do	do $20	.....
do ..	do	do	do $20	.....
do ..	Seeley's Bay....	do	do $60	....
do ..	do	do ...	Withdrawn	....
do ..	do ...	do	do	....
do ..	Sharbot Lake...	do	Fined $20	....
do ..	Lavant.....	do	Dismissed	.....
do ..	do	do	do	.....
do ..	Arden.....	do	do	..... .
do ..	do	do ...	Fined $20	....
do ..	do	do	Dismissed	.....
do ..	do	do	do	....
do ..	do	do	do	.....
do ..	do	do	do	....
do ..	do	do	do	....
do ..	do	do	Fined $20	.....
do .	do	do	Dismissed	.....
do ..	do	do	Fined $20	.....
do ..	do	do	do $20	.....
do ..	do	do	do $20	....
do ..	do	do	Dismissed	.....
Appeared	Peterboro'.....	H. K. Smith.....	Fined $20 00	
Settled.....	....	do	do 20 00	
Summoned ...	Bancroft	do	do 20 00	
do ..	do	do	do 20 00 ...	
do .	do	do	do 20 00 ...	
do ..	do	do	Susp. sentence....	
do ..	do	do	Dismissed	
do ..	do	do	do	
do ..	do	do	do	

District or county.	Name of prosecutor.	Date, 1899.	Name of offender.	Address.	Offence charged.
Hastings	H. K. Smith	Mch. 10.	James Baumhour...	Faraday	Killing deer in close season.
	do	do 22.	S. Donaldson	Lavant	Allowing hound to run at large.
	do	April 16.	Wm. Kane	Gananoque	Hunting ducks in close season.
	do	do 16.	Wm. Dickson	do	do
	do	do 16.	Wm. Thompkins	do	do
	do	do 16.	Joe Miranda	do	do
	do	May 1.	A. E. Donaghy	Colborne	do
	do	do 1.	J. A. Eaton	Consecon	Buying furs in close season.
	do	Sept. 20.	John M. Hancock	Niag. Falls, N.Y	Hunting without license.
	do	do 20.	Dr. C. G. Leo-Wolf.	do	do
	do	do 20.	American, unknown.	New York	do
	do	do 20.	do	do	do
	do	Oct. 6.	George Suter	Uphill	Hunting deer in close season.
	do	do 6.	Alex Muir	do	do
	do	do 6.	Milton Thompson	do	do
Haldimand	J. A. Gill	Aug. 31.	J. Miller	Dunnville	Shooting ducks
	do	do 31.	Herbert Mitchell	do	do
	do	do 31.	J. Martin	York P. O.	do
	do	do 31.	E. Martin	do	do
	do	Sept. 30.	J. Handley	Sherkston	Shooting partridge and shooting out of season.
	do	do 30.	A. Byers	do	do
	do	Oct. 27.	J. Sietz	Stone Bridge, Blk. Rock, N.Y	Hunting without license.
Kent	S. D. Grieves	Sept. 15.	—. Chapple	Erieau	Shooting gulls.
Lennox	Wesley Huff	Dec. 12, '98	Sampson King	Enterprise	Infraction of game law.
	do	do	Charles Rombough	do	do
	do	Sep. 29, '99	Wm. Joice	Napanee	do
Muskoka	Peter M. Shannon	Nov. 17.	A. Fraser	Freeman Tp.	Shipping deer out of township.
	do	do 17.	S. McLeod	Medora Tp.	Selling deer without license.
	do	do 17.	—. Kelly	Freeman Tp.	Killing deer in close season.
	do	do 17.	Edward Moore	Medora Tp.	Possession of fish in close season.
Muskoka	Jno. H. Willmott	Feby. 25.	Alton Stephen		Illegal possession of deer skins.
	do	Mch. 8.	Wm. Green	Baysville	Hunting out of seas'n
	do	do 8.	R. Green	do	do
	do	do 8.	H. Lang	Grassmere	Illegal netting.
	do	do 8.	T. Ballantyne	do	do
	do	April 1.	do	Wahnapitae	Possession of moose meat.
	do	do 29.	W. Larally	Whitney	Killing moose.
	do	do 29.	John Liniard	do	do deer.
	do	do 29.	A. Grattan	do	do do
	do	do 29.	—. Constantine	do	Possession of venison
	do	May 1.	F. Bim	do	Killing deer.
	do	do 1.	H. Holsten	do	Possession of deer skins.
	do	June 26.	Wm. Hood	Dwight	Possession of deer and moose hides.
	do	do 1.	D. Stonehouse	Cakley Bridge	Dog running at large during close season
	do	do 1.	do	do	Hunting out of seas'n
Nipissing	Theophile Maloney	April 15.	J. Rennicks	Copper Cliff	Having moose meat in possession.
	o	do 20.	C. Harvey	Wahnapitae	Killing moose.
	o	do 20.	A. Harvey	do	do

FOR YEAR 1899 —*Continued.*

Was offender arrested or summoned.	Where tried.	Name of magistrate.	Result of case.	Nets, traps or illegal appliances seized during season of 1898.
Summoned	Bancroft	H. K. Smith	Dismissed	
Settled		do	Fined $20 00	
On view		do	do 5 00	
do		do	do 5 00	
do		do	do 5 00	
do		do	do 5 00	
Summoned	Brighton	do	do 10 00	
Settled		do	do 10 00	
On view		do	do 20 00	Confiscated gun.
do		do	do 20 00	do do
do		do	do 20 00	
do		do	do 20 00	
Settled		do	do 20 00	
do		do	do 20 00	
do		do	do 20 00	
Arrested	Dunnville	J. A. Gill	do 5 00	
do	do	do	Warned	
do	do	do	Fined $ 5 00	
do	do	do	do 5 00	
do	Point Ebino	do	do 5 00	
do	do	do	do 5 00	
do	Sherkston	do	Let go on suspended sentence	
Summoned	Blenheim	R. L. Gosnell	Dismissed with cost	
do	Enterprise	Jas. Daly	Fined $20 00	
do	do	do	do 20 00	
do	Napanee	do	do 5 00	
do	Port Carling	Peter M. Shannon, Jno. H. Willmot	Dismissed	
do	do	do do	do	
Could not be found.		Peter M. Shannon		
Summoned	Port Carling	John H. Willmot	Fined $10 00	
Summoned	Bracebridge	Boyer and Wilmott	Fined $10.00	
do	Huntsville	Hutchison and Willmott	Dismissed	
do	do	do do	Fined $20.00	
do	do	do do	Dismissed	
do	do	do do	do	
Settled		Jno. H. Willmott.	Fined $25.00	
Summoned	Whitney	Christie & Willmott	do $50.00	
do	do	do do	do $20.00	
do	do	do do	do $20.00	
do	do	do do	do $5.00	
do	do	do do	do $20.00	
do	do	do do	do $27.50	
Arrested	Huntsville	Hugh Taylor	do $80.00	Conviction quashed, on appeal.
Summoned	Bracebridge	Boyer & Willmott	do $20.00	
do	do	do do	Dismissed	
do	Sudbury	W. A. Quibell, P.M	Fined $5 and costs	
do	Wahnapitae	do	Dismissed	
do	do	do	do	

District or county.	Name of prosecutor.	Date 1899.	Name of offender.	Address.	Offence charged.
Nipissing..	Theophile Maloney ...	April 20..	C. Cryderman	Wahnapitae	Killing moose.
	do	July 24..	J. Cryderman	do ..	do
Ontario ...	James Sutcliffe	June 2..	Fred Herlbert	Enfield	Shooting muskrats.
	Chas. H. Goodman ...	April 10..	Geo. M. Ashley	Cedardale	Shooting ducks out of season.
	do	do 10..	Arthur Brooks	do	do
	Elias H. Traves	Dec. 30,'98	Geo. Stonehouse	Fraserburg	Killing deer in close season.
	do ...	do 30,'98	Wm. Stonehouse ...	do	do
	do	Junell,'99	Daniel Stonehouse..	do ..	Dog running deer on Sunday.
	do	Oct. 29..	Ashton B. Cutliffe..	Brantford	Hunting on Sunday.
	do	do 29..	Chas.A.Montgomery	do	do
Parry Sound ..	W. C. La Brash	Mch. 18..	Holland Emery Lumber Co'y	U. S. A.....	Having deer in possession.
	J. P. La Brash	Jany.	Mr. Blanc.....	Kentucky	Killing deer.
	do	do	Captain Earley	do	do
	do	do	Robert Johnston...	Maple Island ..	do
	do	do	Brown and Claver ..	Ahmic Harbor..	Having deer skins in possession.
	do	April	John Brownell	Whitestone	Running dogs out of season.
	James Weir	Feby. 7 .	William Bolting	Raymond	Killing deer.
	do	do 7..	Albert Bolting.....	Utterson	do
Renfrew ..	James Bowes	Oct. 20..	John Dies....	Dacre	Hunting in close season.
Waterloo..	Robert M. Cruden....	....	—. Ballantine	Galt	Shooting ducks.
	do	.....	—. McConichie	do	do
	Karl Harting	Jany. 7..	Charles Shirback ...	Powassan	Shipping hares.
Welland ..	Richard Griffin	Feby. 1..	Wm. Boyer	Buffalo	Hunting without license.
	do	do 1..	Justus Rosch	do	do
	do	do 1..	Charles Holtz	do	do
Wellington	Lewis Landoni	Dec. 16..	Elliott Richardson..	Fergus	Killing otter.
Nipissing..	Geo. McGrath	April 13..	H. Sausie	do	Buying and possession of moose.
	do	do 13..	S. DesJardine.....	do	do do
	do	do 13..	Kirkup and Moore..	do	do do
	do	do 13..	Wm. Hutchinson ..	do	do do
	do	do 13..	A. Lefebre	do	do do
	S. Huntington	do 14..	James Cousineau ..	do	do do
	do	do 14..	Louis Levine	do	do do
	do	do 14	P. Le Tulepe	do	do do
	do	do 19..	Geo. McGrath.....	do ..	Hunting and killing moose.
	do	do 19..	Albert Hatch	do	do do
	do	do 19..	Wm. P. Roach	do	Buying and possession of moose.
	do	do 21..	W. J. Gilke	do	do do
	do	do 21..	J. J. Hatley	do	do do
	do	do 21.	A. F. Doyle	do	do do
	do	do 21..	Joseph Grenieo	do	Selling and possession of moose.
	do	do 21..	Louis Beaucage	do	Selling moose.
	Edwin Tinsley.....	Sep. 28 .	Harold Stancomb .	Sundridge.....	Hunting and killing partridge in close season.
	do	do 28..	John Mitchinson ...	do	Hunting moose.
	do	Dec. 18..	Andrew Aird	do	Hunting and killing partridge in close season.
	do	do 18..	do	do	Hunting deer in close seasor.
York.....	Jos. E. Rogers.....	do 20..	Bastedo & Co'y	Toronto	Possession of otter skins in close season.

FOR YEAR 1899 —*Continued.*

Was offender arrested or summoned.	Where tried.	Name of magistrate.	Result of case.	Nets, traps or illegal appliances seized during season of 1898.
Summoned	Wahnapitae	W. A. Quibell, P.M	Dismissed	
do	Sudbury	do	do	
do	Port Perry	John Nott	Fined $5 and costs	
do	Oshawa	L. K. Murton	do $5 do	
do	do	do	do $5 do	
do	Bracebridge	James Boyer	Dismissed	
do	do	do	do	
do	do	Boyer & Willmott	Fined $20 00	
do	do	James Boyer	do $10 00	Case appealed.
do	do	do	Dismissed	
Settled		J. P. Labrash	Fined $40.00	
Summoned	Ahmic Harbor	J. Hunter	do $25 00	
do	do	do	do $25 00	
do	Dunchurch	Wm. Robertson	do $10 00	
do	do	do	do $60 00	
do	do	do	30 days in gaol	Seized two nets.
do	Utterson	Daniel Bain	Fined	
do	do	do	Acquitted	
do	Douglas	Jno. McEachren	Convicted	
do	Galt	— Blake	Fined $5 and costs	
do	do	do	do $10 do	Seized 33 hares and gave them to Hospital and Orphanage, Berlin.
Arrested	Bridgeburg	John T. James	Fined $20 and costs	
do	do	do	do $20 do	Seized 4 guns and 1 doz. decoys.
do	do	do	do $20 do	
Summoned	Belwood	J. M. Spence, R.Y. Blythe and Hugh McDonald	Fined $20 & costs.	
do	Sturgeon Falls	Jos. E. Rogers	Fined $10.00	
do	do	do	do 10.00	
do	do	do	do 10 00	
do	do	do	do 10 00	
do	do	do	Case dismissed	
do	North Bay	do	Fined $10.00	
do	do	do	do 10 00	
do	do	do	do 10 00	
do	do	do	do 50.00	
do	do	do	do 40.00	
do	do	do	do 10.00	
do	do	do	Case dismissed	
do	do	do	do	
do	do	do	do	
do	do	do	Sentence suspend'd	
Could not be found.				
Summoned	Sundridge	Jos. E. Rogers	Fined $10.00	
do	do	do	do 30.00	Sentence suspended, as defendant's father was invalid and starving.
do	do	do	do 10·00	
do	do	do	Case dismissed	
		do	Fined $20.00	Confiscated (2) otter skins.

NOTE.—Report of cases for 1900 will appear in the report for 1901.

REPORT

OF THE

DIRECTOR OF COLONIZATION

1900.

PRINTED BY ORDER OF

THE LEGISLATIVE ASSEMBLY OF ONTARIO.

TORONTO:
PRINTED AND PUBLISHED BY L. K. CAMERON.
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1901.

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TORONTO.

Hon. E. J. Davis,
Commissioner of Crown Lands.

Sir:—I have the honor to transmit my first report as Director of the Bureau of Colonization. Owing to the recent formation of the Bureau the report is brief and the returns of settlement less complete than is expected in the future. There is also included a summary of the report of Mr. David Spence, in charge of the Immigration office at the old Parliament Buildings on Front St., a report from Mr. Peter Byrne, Ontario Government Agent in Liverpool, and special reports by Mr. Aubrey White, Assistant Commissioner of Crown Lands, on the work of the Liverpool office and of the work being done by the Imperial Institute.

I have the honor to be,
Sir,
Your obedient servant,

THOMAS SOUTHWORTH,
Director of Colonization.

Toronto, April, 1901.

Owing to the great responsibility attendant upon the organization of a new branch of the public service involving the adoption of methods necessarily of an experimental character, it was with some misgiving that I undertook the work entrusted to me as Director of the new Bureau of Colonization. Realizing the great importance of the undertaking in its bearing upon the future development and prosperity of the Province, and that the establishment of the Bureau implied a considerable departure from the former system and the creation of a new administrative mechanism requiring a large measure of organizing capacity for its successful operation, it was only natural that I should feel some diffidence in entering upon so serious a task. This feeling was to some extent mitigated by the consideration that a close study of the forestry problem and its intimate relations to the kindred question of the disposal and settlement of the Crown domain had rendered me familiar with some phases of the work to be undertaken and enabled me to enter more fully and intelligently into the views of the Government with regard to the lines on which the Bureau should be conducted, than I could otherwise have hoped to do.

Objects of the Bureau.

Acting in accordance with instructions received from the Commissioner of Crown Lands, I have endeavoured to organize the work of the Bureau so as to facilitate settlement in the various districts opened up from time to time, and to afford those in search of homesteads the fullest possible information as to the character of the soil and surroundings, the terms of settlement, the conditions prevalent in the district as regards transportation, markets and employment, and in fact everything likely to have a material influence upon their choice of a location. While fully recognizing the importance of securing the settlement of the better class of immigrants from abroad, I understood it to be more especially the desire of the Commissioner of Crown Lands that the initial work of the Bureau should be mainly in two directions—firstly to make arrangements in the different districts to afford the incoming settlers ample facilities for selecting and entering upon the occupancy of their land, and secondly to circulate information on a somewhat extensive scale among the people of the older settled portions of Ontario to the effect that large areas of good and cheap land were available for agricultural settlement within the borders of the Province and comparatively easy of access, presenting greater advantages to home seekers than could be obtained elsewhere. While it was intended to extend to suitable immigrants the same welcome they have hitherto received and afford them equal opportunities with others in securing land, it was impressed upon me that the first duty of the Bureau and its principal reason for existence was to aid those people of our own Province who were in search of homesteads.

On this basis the organization of the Bureau of Colonization was undertaken a year ago, and I am pleased to be able to report that the results for the season of 1900 have been highly satisfactory from every point of view and that while the work has been to a great extent of a tentative character, the practical progress made justifies the expectation that the settlement and cultivation of the fertile areas of New Ontario will be greatly promoted and extended through the agency of the Bureau. All indications point to a very extensive movement of population during the coming season in the direction of our newly developed districts, which is to a considerable extent due to the steps which have been taken by the widespread distribution of literature and otherwise to familiarize the public with the exceptional advantages offered to settlers by Northern Ontario and to remove the prejudices and misconceptions existing with regard to that region.

For the promotion of this object I have availed myself freely of the columns of the daily and weekly newspaper press, to which special articles and news items have been furnished from time to time embodying information as to districts open for colonization and the progress of the work, and have found this agency of great service in bringing the advantages of New Ontario to the attention of those who could not have been as effectually reached in any other way. It gives me pleasure to acknowledge that I have always found those engaged in journalism fully alive to the public importance of the subject and ready to give their cordial co-operation to the work by placing their space at my disposal. I have also addressed by invitation several societies and organizations, placing before them the superior merits of our undeveloped country as a field for colonization, and the character of my reception on such occasions has indicated a keen and growing public interest

in the subject. There is every reason to believe that the educational work of the Bureau in this direction has done much to effect a change in public sentiment and to bring about a better appreciation of the extent, resources and capabilities of the Province. One practical result of this has been that the exodus from the Province of men in search of new or cheap lands on which to settle, which for many years was a heavy drain upon the population of our rural districts, has practically ceased and now those who seek to better their circumstances by securing homesteads for themselves are turning their attention to our own public domain.

Addresses delivered by the Commissioner of Crown Lands upon various occasions have also done much to bring the claims of New Ontario before the land seekers in the Province and to advance the work of the Bureau abroad.

As directed by the Commissioner I devoted special attention to affording the fullest information in my power to all applicants, and in order to familiarize myself with the conditions prevailing in the various districts, I visited as many of them during the year as the pressure of office work would permit, though I regret to say that I was unable to cover as much territory as desired. I inspected during the season the settlements on the Whitefish River and Slate River valleys in the District of Thunder Bay, part of the territory along the Canadian Pacific Railway between North Bay and Sudbury, and the French River valley in western Nipissing and also the territory at the head of Lake Temiskaming. In each case I personally visited a large number of the settlers, including both the arrivals during the year and those who had been on the land for a longer period and elicited from them as much information as possible as to their condition and prospects and the special features of the neighborhood. My intercourse with them and the general air of thrift and contentment observable, gave me a most favorable impression both as to the capabilties of the several localities for sustaining prosperous agricultural communities and contributing largely to the wealth and progress of the Province, and with regard to the superior personal qualities of the settlers in point of intelligence, industry and fitness for pioneer work. Though for the most part men of comparatively small means I found them everywhere hopeful and confident as to their future prospects and well satisfied with their present condition, the fertility and richness of the soil being evidenced by abundant crops for which good local markets were available.

Ontario's Advantages.

The distinctive feature of New Ontario as an opening for the colonist of limited means, which has greatly conduced to the measure of success thus far attained, is the presence of industrial enterprises of a public and private nature in the near vicinity of each district of farm land. The settler is thus provided at the outset with excellent local markets in which high prices are obtainable not only for the produce of his farm but for the forest products removed in clearing—such as in former days were piled up and burned as waste. Increased means of communication and the growing scarcity of timber in the older settled districts combined with the ever increased demand for timber has made the trees which the settler once regarded as rubbish to be got rid of as speedily as possible, a source of profit which will enable him to realize an income out of the process of clearing his land. Moreover the various industrial enterprises being carried on afford a steady market for labor of which the poor settler can avail himself temporarily as a means of earning ready money. These conditions exist to a greater or less degree in each district. It is fortunate that both these opportunities of procuring the means of subsistence apart from the cultivation of the settler's farm prevail, as it sometimes is the case that the land is burned over or insufficiently timbered to yield any income from the sale of the timber. In every section visited by me last year I found that the demand for labor was greater than the supply In the district of Thunder Bay and the Rainy River valley the building of the Canadian Northern Railway has created an unusually large demand for workmen which will continue throughout the year 1901. In the former district also the rapid development of the towns of Port Arthur and Fort William in various directions of industrial progress has created a large demand for skilled mechanics and laborers. Aside from the operations of extensive lumber firms on the Pigeon River and near Savanne, the principal demand for timber in the Thunder Bay district is for railroad ties, telegraph poles and fuel which are supplied in large quantities by the settlers. A

similar demand exists in the Rainy River valley, of which advantage is taken by the occupants of the timbered land. At the settlement of Dryden or the Wabigoon section the principal requirements of this character are for fuel and railroad ties as there is not any large quantity of heavy timber in that locality.

Settlers' Income.

Some idea of the extent to which the wood industry supplements the settlers' sources of income and lessens the hardships usually attendant upon pioneer work may be obtained from the report of Mr. William Margach, Crown Lands Agent at Rat Portage from which it appears that from 1892 to 1899 the farmers on Rainy River received a total amount of $117,310.72 for ties, posts and poles cut upon their land.

This is exclusive of cordwood sold to steamboats, which during the season of 1899-1900 yielded the sum of $56,250. The ties and cordwood cut in the Dryden settlement during the last two seasons also realized a large amount.

Railway Rates.

A matter to which my attention was directed at an early stage of the operations of the Bureau was the securing of some reductions in the rates of passenger fares charged by the railways giving access to the new districts. The ordinary rate demanded for a journey from Eastern Ontario to Port Arthur was the same as the fare to Winnipeg, the anomaly being doubtless due to the desire of the Canadian Pacific Railway to promote settlement in the North West where they have large areas of land to dispose of. Acting under instructions I had an interview with the management of the Canadian Pacific and Grand Trunk Railways at Montreal in February and succeeded in obtaining a material reduction of fares for settlers, conditional upon their presenting a certificate from the Director of Colonization showing them to be bona fide land settlers. This special rate is available for passengers from any point in Eastern Ontario to any station between Wolf River on the east and Port Arthur and Dryden on the west, including the Port Arthur district. The rate which had formerly been $21 was fixed at $16.

Lake and Rail.

Application was also made to the steamboat companies operating on the Upper Lakes for some reduction in the rates to the ports of New Ontario by rail and boat routes. This was declined on the ground that the ordinary rate was as low as could profitably be given. It was also pointed out that the rate between Toronto and Port Arthur for 1900 had been increased $1 over that of the previous year. As this rate $9.85 is still lower than the fare by the all-rail route it was largely used during the summer by settlers, though those going through from the east to the Wabigoon country went in most cases by rail.

Inspections.

Early in February last year I visited Port Arthur. In company with Mr. Hugh Munro, Crown Timber Agent and Mr. R. A. Burriss, Dominion Immigration Agent we inspected the Townships of Gillies and O'Connor on the line of the Port Arthur, Duluth and Western Railway. I was much impressed with the excellent character of the soil, so far as the limited time at my disposal would allow me to examine it. A grant having been made for the construction of a colonization road, my visit was partly for the purpose of deciding as to the most desirable location for it. We expected to have been accompanied by Mr. Neil McDougall, Colonization Road Inspector, but he unfortunately happened to be absent from town at that time having a very large district to cover in the course of his duties. We reported to Mr. McDougall, after making an examination of the proposed route, and I believe our suggestions met with his approval and were adopted. Several miles of the road were built during the season. At the point where the road crosses the railroad between the two townships, a thriving village has sprung up containing a general store, schoolhouse, boarding-house and saw mill, called Hymer, after

Mr. George Hymer, a prominent setttler, upon whose farm the village is located. The Hymer family took up land in the district some years ago, and their success in growing farm produce of all kinds, convinced others of the good quality of the soil and induced a larger number to settle in this locality. There were scarcely any lots in these two townships remaining unlocated and settlement is extending from this centre into the surrounding townships. During my stay I was afforded much information as to the character and local conditions of the district by Mr. Burriss, whom I found enthusiastic concerning the prospects and possibilities of North Western Ontario and zealous in looking after the interest of incoming settlers. Mr. Burriss, while pastor of the Church of the Disciples in Bowmanville, became interested in colonization work through his desire to secure land in Ontario for some of his co-religionists in the United States, the country from which he originally came. His correspondence ultimately became so heavy and absorbed so much of his attention, that he finally relinquished his ministry and devoted himself entirely to colonization work. Mr. Burriss was allowed by the Dominion Government the usual commission upon the immigrants thus secured that is given to colonization agents located in the United States, being the first man to whom such an allowance was made on account of the introduction of immigrants into Ontario, this arrangement previously applying only to settlers in Manitoba and the North West. He was placed in charge of the Settlers Home or Immigration Hall, a large establishment provided for the temporary accommodation of colonists at Port Arthur which has recently been repaired. Several settlers whom we have forwarded from Eastern Ontario applied there and were received with every courtesy and attention by Mr. Burriss, though his duties at that time only included the reception of immigrants from abroad. Realizing the advantage of having such an agent at Port Arthur, which is the distributing centre for a large area of the surrounding country, including the settlements of the Slate River and Whitefish River valley and other townships to the east and west, as well as the Wabigoon settlement, I recommended making Mr. Burriss an allowance for looking after the interests of newcomers from Ontario as well as American settlers. The Commissioner of Crown Lands having expressed approval of this proposal, it was suggested to the Dominion Immigration Department that it was desirable to place the payment of Mr. Burriss' services on the basis of a fixed salary instead of a commission This was accordingly done, his salary from the Ontario Government being fixed at $50 a month and the Dominion Government paying him at the same rate, the expenses of his office and the Immigration Hall being divided between the two Governments. This arrangement continued through the summer and until December last, when another change was made, the Dominion Government constituting Mr. Burriss a Dominion Immigration Agent for the Province of Ontario, sending him upon lecturing tours in the United States in the interest of the work of colonization. He is therefore not now in the employ of the Province. I desire to express approval of this action of the Minister of the Interior as a timely recognition of the right of Ontario to share in the large expenditure of the federal government for immigration purposes. In this connection it may also be noticed that during the year the Dominion Government has appointed Mr. A. Ribout of Mattawa as an immigration agent, with instructions to devote his attention to promoting settlement in Ontario and the district on the Quebec side of Lake Temiskaming, which presents similar characteristics to the surveyed townships on the Western side. He is now working among the French Canadians in the United States with this object.

French River Valley.

In May last in company with Mr. L O. Armstrong, Colonization Agent of the Canadian Pacific Railway, I crossed the western arm of Lake Nipissing to the land along the river where the new townships were recently surveyed, and visited the territory along the Sault Ste. Marie branch of the Canadian Pacific Railway at Little Current and Spanish Station, as well as at Desbarats. The character of the shore on either side of French River is such as to convey the impression on a passing view of ruggedness and sterility. Owing to the steep and rocky character of the banks there are few good landing places, but on ascending to the top the visitor is surprised to find a level plateau of clay and clay loam timbered with hard wood trees, from which most of the original growth of scattered pine timber has been taken by the lumberman. A block of excellent agricultural land extends northward from Mason township on French River

through Delamere, Cosby, Martland and other townships, including Casimir and Dunnett up to the Canadian Pacific Railway. This is now being rapidly settled, the land in most cases being taken up by squatters In the township of Martland, for instance, which I visited at a later period, I found 28 settlers, some having clearings of 50 acres in extent with good buildings, but as the township was under license and had not been thrown open for settlers, none had been located on the land and they were simply squatters. Since that time I have directed a number of inquirers to the district about Warren, but the same drawback to systematic settlement exists there. As the townships had not been declared open, people from Old Ontario did not as a rule care to go on the land until they could be regularly located.. The result is that the land is largely taken up by men employed in the lumber camps and others not particular about their legal status with regard to the lands, to the exclusion of other Ontario farmers.

The attention of the Commissioner of Crown Lands being directed to this state of affairs, the townships of Ratter, Hugel, Kirkpatrick and Casimir, were placed on the market at 50 cents per acre, and the township of Martland was ordered to be inspected, with a view of cancelling the existing timber licenses, should it be found that the pine timber growing on the land had been removed, as I understand is the case. The township of Dunnett is also largely settled and it is hoped that the existing timber licenses may be relinquished within a short time.

East Algoma.

In Eastern Algoma, between Sudbury and Sault Ste. Marie, the country is somewhat broken, valleys of good land alternating with rocky ridges, rendering the constructing of roads a somewhat difficult problem. Settlement extends back from the railway from twelve to fifteen miles, and it cannot easily be pushed farther to the north until the large extent of country between the main line and the Sault Ste. Marie branch of the Canadian Pacific Railway is opened up by an electric or some other system of railways running north and south, or by lines running east and west parallel to the existing lines.

Temiskaming.

In October last I visited the agricultural section at the head of Lake Temiskaming, going by way of Mattawa and Temiskaming Station, thence by one of the boats of the Lumsden Steamship Co. to Haileybury and New Liskeard, formerly Thornloe, reaching the latter place on Wednesday, October 3rd On the following day I went inland, visiting parts of Dymond and Kerns townships, returning to New Liskeard on Saturday. On the afternoon of that day a public meeting was held in the Presbyterian Church at New Liskeard, where a large number of settlers met the Commissioner of Crown Lands, the Director of Mines, the Inspector of Colonization Roads, and myself. The settlers were invited by the Commissioner of Crown Lands to give their impressions of the district and to express freely any complaints they had to make. On two points only had they any grievances to present. Several of the settlers emphasized to the Commissioner the urgent need of railway communication with the south. While admitting the excellence of the present rail and steamboat communication during the summer, they urged that with the close of navigation in the fall or winter the settlement was isolated until spring. The merchants were obliged to lay in stocks in the fall in sufficient quantity to supply the community until the re-opening of navigation in the following spring. In case of a miscalculation, such as had been known to occur on the part of the merchants, there was a decided scarcity of supplies in some necessary lines. The want of a railway was the only serious and general cause of complaint, and the Commissioner informed the meeting that steps would be taken by the Government at the earliest possible moment to relieve the situation.

There were also some remonstrances made by residents of New Liskeard against the holding of land by non-residents, and it was represented that the Government regulations as to settlement were not being properly carried out. When the district was first opened for settlement one person was entitled to purchase half a section, comprising 320 acres. This provision was afterwards changed, and the area which each individual could purchase was limited to 160 acres. Under the former regulation a few people had purchased land, and it was asserted that they were not improving it nor living upon it as is required

by the regulations, the retention of these lots in an unimproved condition being to the detriment of the settlement. The Commissioner promised to have the matter fully investigated, and that he would insist upon a strict observance of the regulations.

Apart from the drawbacks inevitable in pioneer life under the difficulties of communication referred to, the settlement is prosperous and the outlook of a highly encouraging character. The settlers who are as a rule a very intelligent and industrious class, are well satisfied with their condition and prospects I spent over a week in the district visiting many of the settlers and noted in the appearance of their homesteads every indication of thrift and progressiveness.

In anticipation of a considerable influx of settlement last year the Government spent $7,000 upon the construction of colonization roads to the general satisfaction of the settlers One main road has been constructed north from New Liskeard running through the townships of Dymond and Harley to a junction with the Blanche river. The road from New Liskeard to Haileybury, in the township of Bucke, was improved and a start made on the main road west from Haileybury through Bucke township. The utility of this thoroughfare is appreciated not only by the settlers but by the tourists who avail themselves of it to reach lake Temagami. A good deal yet remains to be done to render it passable for heavy traffic. What is called the West road extends west from New Liskeard through Dymond township into the township of Hudson. A branch runs north and strikes the township of Kerns, keeping south of the Wahbi river. A road has also been built around Wahbi bay from New Liskeard to Dawson's point and another has been constructed running from the North road on the third concession of Dymond and Harris townships to Sutton's bay, thence turning north through the township of Harris. With the expansion of the limits of the settlement these roads will require to be extended in order to meet the wants of the incoming population.

A great drawback to steamboat traffic on Temiskaming is the lack of good wharf accommodation. There is no steamboat landing on the Ontario side of the lake worthy the name and the facilities are so deficient that livestock brought up by boat cannot be landed from the vessel but must swim ashore The village of New Liskeard is situated on both sides of the Wahbi river, which is deep enough to form a first-class harbor were it at all times accessible from the lake. The Wahbi river, however, carries down large quantities of clay owing to the erosion of the banks above, and in consequence a bar has formed some distance out in the lake which the steamers plying on the lake are not able to cross except at high water. It has been proposed to dredge this bar in order to allow vessels to enter the mouth of the river, but the opinion of some is that it would require constant dredging to keep the channel open. A proposition has also been made to build a dam at the head of the first rapids in order to maintain the general level of the lake at somewhere near the high water standard, or at all events some two feet higher than the low water level. The best plan to be adoped is a question for engineers, but whatever may be the method decided on some improvement in the lake navigation is urgently needed.

At New Liskeard I found a small building owned by the Province which had been erected for the accommodation of settlers on their arrival It was somewhat out of repair and in accordance with the orders of the Commissioner, Mr. John Armstrong, Crown Lands Agent, was instructed to have it repaired and put in readiness for the approaching season. It serves a useful purpose, its capacity being sufficient to provide shelter for three or four families temporarily, until they are able to settle on their own land.

In addition to visiting the townships of Dymond, Hudson, Kerns, Harley and Harris contiguous to New Liskeard I also extended my trip to Haileybury and the settlements in Bucke township. This township is somewhat broken and does not contain so much level land as the townships around New Liskeard. There is said to be some excellent land between Bucke township and the Montreal river on the west and strong representations have been made by the residents of Haileybury for the survey and subdivision of a new township west of Bucke. The land in the latter township although broken, is very good and the settlers include several Swedish families who are doing well. The trade of the numerous tourists passing through this section *en route* to Lady Evelyn and Temiskaming lakes is likely to be of increasing value and importance to the locality as the attractions of these picturesque resorts are yearly becoming more widely appreciated. The whole Temiskaming country only needs the construction of a railway giving it continuous rail communication with southern Ontario to render it one of the finest and most prosperous agricul-

tural districts in the province. At the time of my visit, in the first week of October, I noticed several varieties of garden flowers flourishing in the open air in the villages. The wheat and other crops were excellent in yield and quality as a rule, and any shortcomings in this respect were due to the fact that some settlers, who had not taken advantage of the fine fall weather in the earlier part of the season were subjected to some difficulty in harvesting owing to wet weather. Where threshing was in progress I noticed that some wheat straw appeared discolored from this cause.

RESULTS FOR THE YEAR.

In organizing the Bureau of Colonization it was found that the movement of settlers from Old Ontario and of immigrants from the United States and elsewhere was not facilitated to any extent by either the Dominion Government or the railways. While the rate of fare from Eastern Ontario to Port Arthur, Rainy River and Wabigoon was just the same for colonists as to Winnipeg it was also found that while the Dominion Government allowed their agents in the United States a commission on immigrants to Manitoba and the Northwest Territories no commission was allowed to those settling in Ontario except in the case of Rev. Mr. Burriss, who was organizing a colony for a township in the Rainy River valley and who was allowed the usual commissions. Representations were made to the Dominion Government at once and their agents in the United States were advised that they would be allowed commissions for immigrants settling in Ontario on obtaining certificate from the local Crown Lands Agent that they had settled in the Province. Conference was also held with the Grand Trunk and Canadian Pacific Railway management and the rate to Port Arthur and Wabigoon, which had previously been $21, the same as Winnipeg rate, was reduced to $16 on passengers obtaining certificate from the Director of Colonization that they were actual *bona fide* settlers. As the rate by boat and rail from Toronto and points west of Toronto to Port Arthur was still much less than the $16 rate most of the land seekers went that way instead of by rail. There were issued, however, during the year from the Bureau of Colonization 115 certificates for this special rate, although a larger number went west by boat than by rail and for the boat passengers no certificate was issued and although we know that many who had been in correspondence with the Department went by boat we have no record of the proper number. The C. P. R also agreed to adopt a special colonist rate from all points in Eastern Ontario to points west of Mattawa at $1\frac{2}{3}$c. per mile. From returns supplied the Bureau of Colonization by the C P. R. 956 tickets were issued at this rate and these cases were all investigated and the tickets only issued to men who were found to be land seekers and not to men going up to work in the mines or other enterprises.

It is a difficult matter to arrive at the actual number of settlers who located on land during the year for the reason that in some sections considerable settlement has taken place where the land had not been formally opened for settlement. This was notably the case in the district of Nipissing between Sudbury and Sturgeon Falls and to a considerable extent also in Eastern Algoma. As these settlers had not applied for locations, the townships not being opened, we have no record of their number, but in some townships a personal investigation by the Director of Colonization showed that there were from thirty to fifty settlers with comfortable houses and well cultivated clearings. Several of these townships were opened for settlement recently.

In the districts of Thunder Bay, Rainy River, Wabigoon and Temiskaming the land agents have been able to keep a fairly correct account of the people coming into their respective districts. The Rainy River valley and Thunder Bay districts are free grants, and as the whole valley is open for settlement most people who took up land there applied for it in the regular way. In the Rainy River valley and also in the Thunder Bay district, however, a great many immigrants have gone in and are now working on the Canadian Northern Railway intending to take up land when the route of the railway through the valley is definitely made known. They have made no application for their land as yet and consequently we have no means of arriving at the number of such immigrants. In the Temiskaming district some squatters have located along the Blanche River north of the tier of townships open for settlement, but their number is not large.

From the land agents in the districts for which returns are at all available the following table is compiled. If to this number were added the people who have squatted in

different sections and those who have gone into the Thunder Bay and Rainy River districts and now working on railway construction and are likely to settle upon land as soon as that work is done, the number will be found to be quite large. The following is the table of returns that we have from the different agents:—

District.	No. of Locatees.	Acreage.	No. of Souls.
Thunder Bay	250	40,000	750
Rainy River Valley	273	43,680	602
Temiskaming	112	17,920	350
Parry Sound	163	23,014	500
Dryden	20	2,860	64

Some idea of the nationality of the settlers may be seen in the returns for Rainy River Valley in which the settlers were from the following Provinces and countries:—

Ontario	504	United States	65
Manitoba	42	Quebec	29
Sweden	10	England	4
Scotland	1	France	1
Ireland	9	P. E. Island	1

The larger number of settlers in the Thunder Bay district were from the United States, but no figures are supplied by the local agent. In Temiskaming during the year nearly all the settlers were from Old Ontario.

It is to be noticed that we have made no estimate of the number of people arriving in the Sault Ste. Marie district as the result of the enterprises engaged in by the Clergue syndicate. A great many of these settlers are living in the town working on the railway and in other enterprises and waiting for the lands along the railway to be surveyed and opened up. We have therefore no means of estimating the number of settlers who have gone in there, but from information from various sources we are led to believe the number is very considerable. It must be borne in mind also that the work of directing settlement to our newer districts has only been undertaken during the past year, and from inquiries now being received and from the number who intimate their intention to take up land the movement this year will be very much greater than during 1900. We have done no advertising in the United States, most of the enquiries from that country coming from men who have seen reference to New Ontario in Canadian papers. It is expected that the representation of the Province at the Pan-American Exhibition the coming summer will do much towards spreading information in the United States concerning our new districts.

IMMIGRATION.

From the report of Mr. David Spence, who has immediate charge of this branch of the work, it is seen that the influx of European immigrants which had been steadily declining in volume for a number of years until 1899, when a slight revival took place, again shows an increase. The total number of steerage passengers reported as having settled in Ontario during 1900 was 4,983, being an increase of 968 over the preceding year and of 1,625 over the arrivals of 1898. These figures do not include immigrants arriving through the United States, excepting such of them as may enter Canada at the port of Montreal. No account is taken of any who may reach the Province by other routes or of cabin passengers on ocean steamships who settle in Ontario, and it is only reasonable to infer that were these items included the total would be considerably augmented. As the returns are on the same basis for previous years, however, the figures as they stand show a satisfactory improvement as to the number of immigrants. The quality of the immigration shows a steady improvement, this year's arrivals all being in a fairly healthy and physically capable condition. Owing to the courtesy of the Depart-

ment of the Interior at Ottawa, and the Dominion immigration agents at the Atlantic ports in furnishing information, I have been enabled to present the statement which follows, showing the number, nationality and occupation so far as ascertained, of immigrants arriving who had declared their intention of settling in Ontario. This statement is necessarily incomplete, as the Department of the Interior has changed its practice in regard to the compilation of immigration statistics, so as to make the statistical year correspond with the Dominion financial year ending on the 30th of June, thus preventing the completion of the classification either by nationalities or by occupations. There appears, however, to be comparatively little change in these respects, excepting that the mining industry is now attracting some workers of that calling, the present being the first occasion on which the list of occupations has included "miners."

The comparatively few farm laborers who came out found a keen demand for their services during the busy season at good wages, help being very scarce in most of the rural districts. The influx of domestic servants was also small and is likely to continue so, as the servant girl problem presents, from all accounts, equal difficulties in Britain to those complained of here, and efficient help can always command good wages without the need of emigrating. The general laborers among the immigrants found no difficulty in obtaining work, owing to the steady demand caused by the activity prevalent in railway construction and the general industrial prosperity.

STATEMENT A.—Showing the number, nationalities and occupations, so far as ascertained, of the immigrants arriving at the ports of Halifax, St. John, N.B, Quebec and Montreal for the Province of Ontario, during the year 1900 :

—	Total arrivals.	Nationalities.								Occupations, so far as ascertained.						
		English.	Irish.	Scotch.	German	Scandinavian.	French and Belgian	Finnish.	Other countries.	Agriculturists.	General Laborers.	Mechanics.	Clerks and Traders.	Miners.	Female Domestics.	Not classified.
Halifax	673	378	18	40	6	22	3	90	116	....	....	....	....	....	....	.....
St. John, N.B	54	..	....	....	....	....	....	....	....	....	....	....	....	....	....	.....
Quebec*	1,158	669	80	125	6	44	5	97	32	60	372	69	21	8	140	488
Montreal*	526	247	....	5	18	20	..	96	140	117	212	9	9	9	31	139
Total	2,411															

* For the six months ending June 30th.

Add for six months ending December 31st arrivals at Quebec (not classified), 2,189, and at Montreal (not classified), 383, making the totals for Quebec 3,347, for Montreal 909, and the total arrivals for the year 1900 4,983, as against 4,015 in 1899, an increase of 968.

The following is a statement of the number of immigrants arriving in the Province of Ontario, with their nationalities, for each year from 1878 to 1900, inclusive :

Year.	English.	Scotch.	Irish.	German.	Other countries.	Total.
1878	6,124	1,785	1,561	620	2,975	13,055
1879	12,169	2,894	2,993	1,450	3,901	24,407
1880	7,980	3,027	4,518	1,197	2,569	19,297
1881	7,704	3,070	4,521	1,274	1,664	18,233
1882	10,873	3,173	6,322	1,033	1,290	22,691
1883	11,954	2,658	8,993	1,384	2,130	27,119
1884	11,020	2,623	3,783	1,716	3,136	22,277
1885	7,261	2,131	2,105	1,098	1,378	13,973
1886	8,344	2,268	2,497	936	1,243	15,288
1887	10,758	3,277	3,330	1,032	1,326	19,723

Statement.—*Concluded.*

Year.	English.	Scotch.	Irish.	German.	Other countries.	Total.
1888	11,984	3,598	2,801	993	1,156	20,532
1889	9,028	2,347	2,268	779	965	15,387
1890	6,442	1,613	1,630	699	1,042	11,462
1891	6,140	1,368	1,256	649	922	10,335
1892	4,339	1,188	1,048	602	594	7,771
1893	4,743	545	466	380	437	6,571
1894	4,283	584	347	177	577	5,968
1895	3,752	559	358	139	578	5,386
1896	3,019	545	226	58	593	4,441
1897	2,404	459	238	66	551	3,718
1898	2,452	292	198	49	367	3,358
1899	2,710	407	266	95	537	4,015
1900	....	.....	.....	.....	.....	4,983

Returns of juvenile immigration from the homes conducted on a charitable basis by organizations or individuals who engage in bringing out homeless and friendless children from Britain to Ontario, show a total of this class of arrivals of 981, being an increase of 164 over the number in 1899. The number of these children landed in Ontario has been considerably lessened since the passage of an Act in 1897 to regulate the work and keep out undesirable classes of juvenile immigrants.

The following statement shows the aggregate number of children settled in this province since 1868 by the undermentioned parties

Year.	Miss Rye.	Miss Macpherson.	Mrs. E. Bilbrough Wallace.	Mr. Middlemore.	Rev. Dr. Stephenson.	Dr. Barnardo.	Mr. Fegan's Boys' Home, London, Eng.	Cardinal Manning and others.	Mr. Quarrier.	Total.
1868-72	907	1,013	....	.....	.. ..	.....	.....	....	.....	1,920
1873-77	418	1,099	.....	384	152	.....	....	.....	.....	2,053
1878	42	68	79	86	32	.....	....	.....	.....	307
1879	96	95	126	57	23	.....	.. ...	.....	.....	398
1880	68	114	129	41	22	.....	11	22	.....	407
1881	117	90	158	60	46	.....	49	45	.....	562
1882	118	183	153	70	41	51	24	139	... .	779
1883	170	193	194	125	53	172	43	183	....	1,133
1884	165	165	254	145	75	252	39	283	....	1,378
1885	125	183	351	115	87	395	32	323	.....	1,611
1886	110	215	274	129	91	615	33	301	.....	1,768
1887	120	212	316	202	75	406	...	77	.....	1,408
1888	300	270	271	279	101	484	104	30	....	1,839
1889	160	249	295	85	86	481	92	.....	....	1,448
1890	151	156	204	.....	71	257	96	.....	250	1,185
189'	135	230	282	.....	66	369	108	. ...	233	1,423
1892	90	237	204	....	62	614	95	. . .	250	1,552
1893	140	120	242	....	59	770	123	.....	268	1,722
1894	136	122	222	.....	56	632	86	.....	257	1,511
1895	75	58	230	.	39	633	92	.. .	262	1,389
1896	10	155	202	.....	45	548	77	.....	256	1,293
1897	34	87	100	.....	34	407	77	....	235	974
1898	21	43	48	. ..	22	423	42	...	.....	599
1899	45	61	59	....	41	463	48	.....	...	717
1900	39	60	59	.. .	29	752	42	...	....	981
Total	3,792	5,478	4,452	1,778	1,406	8,724	1,313	1,403	2,011	30,357

Little alteration is apparent in the prospects for Transatlantic immigration for the coming season The increase in the number of immigrants during the past two years,

though noticeable in comparison with the scanty influx of the immediately preceding period, is relatively trifling as compared with the proportions formerly assumed by the movement. With the growth and development of large industrial and mercantile centres and increased facilities of travel and communication the conditions of labor and living in the Old and New Worlds tend constantly to approximate more closely, so that it is hardly likely that the immigration movement from the British Isles will ever assume its former proportions unless in case of some extensive national calamity, or disturbance of normal conditions. At present a high degree of activity obtains in most lines of industry in Great Britain and elsewhere, so that the classes dependent upon mechanical or urban labor for their subsistence who intend pursuing the same callings in the future have not nearly the same incentive for emigration as formerly prevailed.

With the opening of the extensive sections of first-class agricultural land which the exploration of New Ontario last year has shown to be in every way adapted for successful cultivation we may anticipate large accessions to our population. But we may expect a considerable change in the class and character of the influx resulting, partly from the cause just adverted to and partly from the fact that the unoccupied lands in the United States available for settlement are nearly exhausted, while the number of land-seekers on this continent whose experience and training render them fitted for pioneer work is largely on the increase. It may reasonably be anticipated, therefore, that the principal sources of the movement likely to set in towards our unsettled lands will be the older farming districts of our own country and the United States, in both of which there is a large class of young men who find it impossible to secure cheap land at home, and are therefore driven either to seek other employment or to take up land in the newer settlements. Hitherto this class of settlers has been largely absorbed by the continuous movement westward in the United States, which in past years has been considerably swollen by the exodus of Canadians, which has now fortunately ceased. The opening up of New Ontario, co-incidently with the exhaustion of the good agricultural land of the United States, has already resulted in a turn of the tide, and the first contingents of American home-seekers now entering our northern country are in all probability merely the precursors of a much larger wave from the same direction. I am in receipt of numerous enquiries by mail from the United States as to New Ontario from men who are anxious to obtain homesteads, but it is observable that in nearly all cases they come from people who have had the opportunity of reading Canadian newspapers, leading to the conclusion that the majority of them were at one time residents of Canada. Very little has been done to put the advantages of the country before the American people, but it may reasonably be anticipated that the publicity given to its resources and capabilities through the medium of exhibits at the Pan-American Exposition at Buffalo will have an important effect in enlightening the public of the United States as to the opportunities afforded by our Northern country. In short, the immigrants who are now arriving and whom we may reasonably anticipate will constitute the larger proportion of the future influx, are men who come with the intention of settling on the land, and who by their knowledge of American methods, very similar to our own, are well fitted to succeed—whereas the European immigration of the past mainly comprised those of other callings and occupations whose value to the country as producers was less obvious and the demand for whose services was frequently problematical.

This change in the character of the immigration calls for corresponding alterations in the system, such as have already been partially carried into effect by the Bureau of Colonization. The essential difference to be kept in view is that instead of considering the work accomplished when the immigrant is secured and landed on our shores, the most important part of the service begins at this point and consists in seeing that the settler is directed to the part of the country best suited to his personal aptitudes and requirements and aided in securing a location. The fact of the United States, hitherto our chief rival, having practically no further inducements to offer to those looking for cheap, fertile and accessible farming lands largely does away with any necessity that may at one time have existed of supplementing the propaganda maintained abroad by the Dominion by similar efforts on behalf of the Province. It has been considered desirable to retain the agency at Liverpool under the charge of Mr. Peter Byrne, which in addition to its work in connection with immigration performs important services in promoting the commercial interests of the Province abroad. A report respecting this agency is published as an

appendix. The favorable conditions of settlement which Ontario can now offer, the fertile character of the soil and the opportunities presented of obtaining a comfortable and independent livelihood, will of themselves attract an inflow of population as rapidly as the machinery can be provided for placing the new-comers upon the land advantageously.

Immigration Expenditures.

The passing of the old provincial immigration system and the adoption of methods more in accordance with the altered conditions of the new century may afford an appropriate occasion for a short review of the annual expenditures for immigration from the inception of the system until the transition stage was reached.

The first outlay made from the Provincial Treasury for the encouragement of immigration was in 1869, when the expenditure for this purpose amounted to $17,595. The work was then under the control of the Commissioner of Public Works, being a subsidiary branch of the Bureau of Agriculture, then united under one head with the Public Works Department. At other times the duties of Commissioner of Agriculture, including the management of immigration, were undertaken by the Provincial Treasurer. In 1888 a separate Department of Agriculture was constituted, which has since had control of immigration matters. The expenditure of 1869 included $7,434 for printing pamphlets, $3,187 to the Grand Trunk, Northern and Great Western Railways for "passes for immigrants" and $2,733 for provisions. In 1870 the expenditure was increased to $32,087, including the maintenance of agencies at Toronto, Hamilton, Kingston and Ottawa. Pamphlets cost $6 040 and railway transportation $5,198.

In 1871 the outlay was $29,712, of which $5,486 went to the railways, $11,564 for printing and $3,000 for provisions. The service was extended in 1872, its total cost being $57,750. Fifteen persons received small grants for services in Britain and on the European Continent, including Mr. Peter Byrne, the present agent in Liverpool, who received $250 The railroads and interior steamship companies were paid $6,199, and $23,000 was refunded to immigrants on account of passage money.

High-water mark in the matter of expenditure was reached in 1873, when the figure amounted to $159,178. The carriage of immigrants cost $27,591, of which $18,100 was paid to the Dominion Receiver-General. "Assistance to immigrants" was afforded through Mr. David Spence to the extent of $60,000, and $1,412 was laid out on sheds at Gravenhurst, Parry Sound and Rosseau, in addition to $3 081 spent on settlers' homesteads.

In 1874 the expenditure was $134,640, including the items of agencies in Europe, $32,475; agencies in Ontario and Quebec, $18,454; carriage of immigrants, $34,535; and assistance to immigrants $46,530. The total cost of the service in 1875 was $94,060, of which $32,687 was expended for the carriage of immigrants and $7,364 for provisions and medical attendance. The sum of $23,436 was given in bonuses to immigrants in reduction of the cost of passage and $5,022 was paid in commissions to temporary agents in addition to the regular staff.

A considerable reduction was made in the expenditures for 1876 The agencies in Europe were confined to that established in London and the number in Canada curtailed. The bonuses paid to immigrants only amounted to $1,758, but the Receiver-General of the Dominion was paid $25,000 on account of forwarding immigrants to Ontario Inland transportation cost $3,372 and provisions and medical attendance $4,381. The total expense of the service for the year was $45,201. The outlay during 1877 was on much the same basis It amounted to $46,265, of which $5,599 was paid for provisions, medical attendance, etc., the Receiver-General drew $21,239, and other carriage of immigrants came to $4,961. Another reduction followed in 1878 when the item stood at $31,975, The amount paid the Receiver-General was only $7,139, a falling off of $14,100 from the previous year, which would indicate a notable decrease in the volume of immigration, although the expense of the inland carriage of immigrants, $4,817, was nearly the same, and the outlay on provisions, medical attendance, etc, $5,610, showed a slight increase.

In 1879 the expenditure was $39,650 and the upward tendency was more noticeable in 1880, when it increased again to $52,982. This included $6,497 for pamphlets, $20,000 to the Dominion Government for forwarding immigrants to Ontario, $9,321 for the carriage of immigrants and $8,513 for provisions, medical attendance, etc. This scale

was not maintained in 1881 when the outlay dropped to $34,826 of which $14,805 was paid the Dominion Government for forwarding immigrants, and other outlays for transportation amounted to $5,064. In 1882 the payments to the Dominion for this service appear to have ceased, but the Grand Trunk Railway received $8,236 for forwarding immigrants, and there was also expended under the head "carriage of immigrants," the sum of $4,071, of which the Grand Trunk received $1,086. The total cost of the service for the year was $30 414. This was increased in 1883 to $47,764, including $12,248 to the Grand Trunk for forwarding immigrants, and $8,842 for "carriage of immigrants." The expenditure during 1884 was $43,369, comprising $7,690 for agencies in Europe, $6,690 for agencies in Ontario, $12,175 for carriage of immigrants within the Province, $6,235 paid to the Grand Trunk, $7,148 for medical attendance, provisions, etc, and $3,428 in incidentals.

The expenditures for the subsequent years were on a much smaller scale the payments for forwarding immigrants to Ontario being discontinued. The total outlay for 1885 was $19,088, of which $2,852 was for the carriage of immigrants within the Province. In 1886 $16,837 covered the expenditure, of which only $780 was paid for the carriage of immigrants in Ontario. The transfer of the British agency of the Province from London to Liverpool where Mr. Peter Byrne has since been located, appears to have taken place in this year.

In 1887 the cost of the immigration service was $11,795. The expenditure on the Liverpool agency was $5,150, about the same as at present. The cost of Ontario agencies exclusive of Mr. David Spence's salary, which is covered by the charges for Civil Government, was $2,485, carriage of immigrants $809, medical attendance, provisions, etc., $2,948.

The present reduced basis of expenditure was reached in 1888 when the amount was $7,952. Of this $5,150 was for the Liverpool agency. The sum of $1,517 charged under the head of Civil Government should be added to immigration expenditures. The expenditures of later years shown by the Public Accounts under the heading "Immigration," has usually been between six and eight thousand dollars which, however, does not include the sums expended for pamphlets by the Crown Lands Department and the Department of Agriculture.

APPENDICES

No. 1.

ANNUAL REPORT OF PETER BYRNE, ESQ., IMMIGRATION AGENT, LIVERPOOL, ENGLAND.

ONTARIO GOVERNMENT AGENCY,
7 JAMES STREET,
LIVERPOOL, JANUARY 1ST, 1901.

DAVID SPENCE, ESQ.,
Secretary Immigration Department,
Toronto.

DEAR SIR,—I have the honor to present herewith the report of the work of this Agency for the year 1900.

The methods of procedure have been in the main the same as those pursued in past years, namely, newspaper advertising, correspondence, personal interviews with inquirers and the distribution to the public of handbooks, pamphlets, leaflets, official reports, &c., descriptive of or relating to the Province.

The advertisement of the Agency has appeared in upwards of three hundred different newspapers including the principal agricultural journals and others that are widely circulated in the rural districts. To supplement the handbooks I have had printed in the course of the year, 30,000 leaflets. These have been largely distributed to public reading rooms and free libraries throughout the country; also at agricultural shows and to the principal steamship agents. One of the leaflets is on the subject of fruit farming and is entitled "The Orchards and Vineyards of Ontario." It is attractively illustrated. The other two were especially addressed to tenant farmers and persons generally who are interested in agricultural pursuits.

The latest publications on New Ontario have excited a good deal of interest among the emigrating portion of the public and many inquiries have resulted from those I have circulated. A further supply would be welcome.

I have as usual given every encouragement to all classes of desirable emigrants and as uniformly discouraged those who are not wanted or who would not be likely to make good settlers. During the year there have been more inquiries than usual from persons anxious to engage in farming pursuits and with varying amounts of capital to invest in land. This class have been supplied with copies of all the publications at my disposal besides answers to special inquiries.

The large cities of the Old Country contain thousands of men who have been brought up on farms from which they have been attracted by the higher wages for labour in the towns. Many of these made inquiries regarding the prospects in Ontario for trained farm hands, and a goodly number I have reason to believe took advantage of the information I gave them and went out during the season.

I have also received an increased number of applications from youths and young men who, though not practically acquainted with agriculture, expressed a natural liking for country life and an ardent desire to learn farming. But I have not encouraged any of this class except those who are strong, healthy and willing to work. I have assumed that openings could readily be found for as many of such young men as were likely to go out.

What with the constantly increasing home demand for female domestic servants and the granting of free passages by some of the Australian colonies, it is no longer possible to obtain the numbers of this class that formerly emigrated to Ontario. Some time ago, I inserted an advertisement in a few leading papers, specially addressed to domestic servants and pointing out the great demand that existed for them in the Province and that high wages were offered for experienced and capable girls. I received a great many

letters in reply. Most of the applicants hoped for free passages or that their fares would be advanced wholly or in part by employers to be refunded out of wages. No doubt a considerable number would be willing to go on such conditions. But there are I know, very great, if not insuperable, difficulties in the way of such an arrangement. A small proportion professed their ability to pay their own fares and their willingness to go if they could be assured of satisfactory situations to go to on arrival. I am at present endeavouring to arrange for several of these to go out on an early day to places which Mr. Southworth has secured for them in the north-west of the Province. The question of wages is an important one. For capable and experienced girls who can do good plain cooking, employers must be prepared to pay not less than $12 per month. Anything under this would not be a sufficient inducement to the best class of servants to leave this country if they must pay their own fares out.

During the months of September, October and November a series of shipments of fine Ontario fruits were made to Manchester direct under the supervision of the Honorable, the Minister of Agriculture, from whom I received special instructions to inspect the fruit on arrival and report on its condition. Special pains were taken by means of improved methods of packing and cold storage to ensure the delivery of the fruits in good order in the English market This object was fairly well accomplished in nearly all the shipments. The fruits new to this market were pears, peaches, summer apples and grapes. In order to impress the public of Manchester and Liverpool with the horticultural capabilities of Ontario as demonstrated by the production of these fruits, and to endeavour to stimulate a demand for them, samples of the shipments were publicly exhibited in both cities, which attracted the attention and excited the interest of thousands of people. Astonishment was expressed on every hand that such fine peaches and grapes as were thus shown could be grown in the open air. Many excellent press notices greatly assisted in stimulating the public interest in these displays. The lessons which these shipments have taught will, it is hoped, lead to still greater success in future seasons and eventually result in placing this important branch of trade on a permanent footing.

In the exercise of my duty as "Examiner" of child emigrants, I have during the year, inspected 16 parties of emigrant children sent out for settlement in Ontario, from the following Homes, namely,

Dr. Barnardo's Boys' Home, Stepney Causeway, London.
Dr. Barnardo's Girls' Home, Barkingside, Essex.
Southwark Catholic Emigration Society's Home, London.
Mr. Shaw's Children's Home, Strangeways, Manchester.
Mrs Birt's Sheltering Homes, Liverpool.
Dr. Stephenson's Children's Homes, Bonner Road, London.
Dr. Stephenson's Children's Homes, Edgworth, Lancashire.
Miss Macpherson's Homes, London.
Mr. Fegan's Homes, Southwark, London.
Mr. J. Galleway's Girl's Home, Ardrossan.
"Waifs and Strays" Society's Home, London.
Royal Albert Orphan Asylum, Worcester.

The total number of children in the several parties was 1248, consisting of 758 boys and 488 girls. The total last year was 666 boys and 343 girls. The present year therefore shews an increase of 92 boys and 145 girls as compared with last. It may be that the number as given above of children inspected, will not correspond exactly with the number actually arriving at the Homes in Ontario, because some of them may have been left at distributing Homes in the Province of Quebec to be retained there or subsequently forwarded to Ontario at the discretion of those responsible for them.

The children were, as far as possible, examined at the Homes from which they were emigrated and where for the most part they received their training and education. Two of the Homes have a large number of branches scattered throughout the country so that children coming from these have to be inspected on board the ship on the day of sailing. Under these circumstances the examination cannot be so thorough or so carefully made as when it is carried out at the Homes, but the difficulty seems unavoidable. However, in such cases, it is enjoined upon those responsible for the sending out of the children that they must be careful to select for emigration only those whom they know to be eligible under the Act and I think this rule is well observed.

A considerable proportion of the children were found to have made fair progress in their schooling; and very many of the older boys had also received a good deal of technical instruction in various trades; and the girls in all the common branches of domestic work. These latter were therefore qualified more or less to enter situations at once as domestic servants and would doubtless be welcome in many a Canadian home. Indeed complaints are often heard from people who cannot get servants that it is a shame to send so many trained girls out of the country when they are so much wanted here. Of course, such people do not know or appreciate the reason why this is done namely, to save the children from the danger of being dragged down again into the maelstrom of wretchedness and suffering from which, in many cases, they have been rescued. But after all, the interests of the children are mainly to be considered and no complaints are made by them. On the contrary, they are all, without exception, delighted to go to Canada and look forward to their new homes beyond the sea with joyous and hopeful anticipations.

Occasional inquiries from persons interested in trade and commerce between Ontario and the Mother Country also regarding the mining and manufacturing industries of the Province have been received and answered.

The total number of letters received during the year was 2,973 and the number sent out was 3,118. Letters sent out were accompanied by pamphlets or other publications for the fuller information of the inquirer. Besides the inquires by letter a large number were received in person at the office and many publications were distributed across the counter.

The official returns of emigration for the year will be sent you as soon as issued.

I have the honor to be,

Your obedient servant,

P. BYRNE,

Agent for Ontario.

APPENDIX No. 2.

REPORT OF THE ASSISTANT COMMISSIONER OF CROWN LANDS ON THE LIVERPOOL AGENCY.

TORONTO, October 14, 1900.

SIR,—In conformity with your instructions conveyed to me previous to my leaving for England in June last, as soon as possible after my arrival in Liverpool, I inspected the emigration agency of this Province in that city. The office is situated on James street, and is in a centre of steamboat and railway agencies and not far from the Dominion of Canada Emigration Office. In the same building is the Liverpool agency of the Canadian Pacific Railway, a few doors away is the agency of the Allan line of steamers, and just across the street is the agency of the Dominion line. The position of the office is therefore very convenient for those shipping from Liverpool who may desire to obtain information about Ontario and its resources or instructions how to reach their intended destination. The office consists of one small room and the staff is composed of Mr. Peter Byrne, the agent, and one clerk. The office hours are from 9 to 5 in each day, although the agent is to be found there before and after these hours when there is any special business to transact. I was informed by Mr. Byrne and it came under my own observation, that certain improvements in connection with making the building more presentable and attractive are being done, in consequence of the expense attending which the landlord purposes increasing the rent to some small extent. I am of the opinion that as the agency has been in this locality for very many years and this is a centre of shipping, railway, and offices of a kindred nature, it will be wise to pay the small additional sum demanded as rent rather than move the agency to another locality. The furnishing of the office is on a very modest scale, and the expenses, I am in a position to say after investigation, are kept down to as low a point as is possible, having regard to the nature of the work to be done.

I found Mr. Byrne to be a very courteous and efficient officer, ready to give me all and every information I desired and well informed upon the matters of which he has

charge. I had the benefit of receiving his views on the possibility of attracting immigration to Ontario, the class of people that might come out, and the steps advisable to be taken to induce them to do so.

As to the nature of the work of the agent, I found that while Mr. Byrne occasionally attends agricultural exhibitions and other public gatherings and delivers lectures upon the subject of Ontario, the principal means employed to promote interest in emigration is advertising in the newspapers. The appropriation for contingencies of the office, however, is so small that if many newspapers were used and the different parts of the three kingdoms informed as to Ontario's advantages and possibilities, the advertisement must necessarily be very short and concise. Consequently, what is done is simply to indicate the general advantages of the Province and the people best adapted for it and inform them of the name and address of the agent who will furnish all particulars pertaining to climate, resources, productions, land laws, etc., etc. The selection of the papers in which this advertisement is inserted I found to be judicious, consisting principally of agricultural and horticultural papers as well as larger weekly journals and those which circulate among farmers and others in the vicinity of small towns and in the rural districts. A few of the larger journals advertised in have a circulation ranging from 100,000 to 1,000,000 per annum, but the classes aimed to be reached are those likely to be interested in farming in a new country. The result of this advertisement is, I found on examining the files and letter books of the agency, that a continuous stream of inquiries about Ontario, its resources, productions, climate, system of Government and advantages offered to men of various pursuits, keeps pouring in in greater or lesser volume all the year around, and on looking through the letter books of the agency I was very much pleased to find the great care that was taken by Mr. Byrne to give full and complete information as well as useful advice to all applicants; and further, in every instance they were invited to correspond with the agency again if there was any point on which they desired more explicit information. I may also say that large numbers of leaflets are printed and sent out to different public libraries and reading rooms throughout the three kingdoms. These leaflets are prepared by the agent himself, their object being to accentuate certain special advantages which Ontario offers to people desiring to emigrate, and these are, I am glad to say, productive of much interest and inquiry.

In addition to the emigration branch of the work, I found that Mr. Byrne was in receipt of a great many letters from people looking for business openings and the investment of capital, and that a considerable volume of correspondence was kept up with people desiring this sort of information. Mr. Byrne certainly seems, from the nature of the letter written, to be as well equipped to give information upon this branch of the subject as upon emigration matters. From what I have said you will see that the work of this agency is largely the dissemination of useful information about Ontario and the giving of advice and counsel.

The educative work done by this agency is very valuable in the interests of this Province, and has done much to prevent Ontario being either overlooked or forgotten in matters of emigration or the investment of capital. Practically this is the only place where real active work in specially promoting emigration to Ontario is carried on and we have many formidable competitors in the field. The agents of the Dominion Government and the Canadian Pacific Rai way devote their efforts largely to promoting emigration to Manitoba, the North-West Territories and British Columbia, but as Ontario bears a larger proportion of the cost of maintenance of the Dominion immigration system than any other Province in the Confederation and has vast areas of unsettled land, which offers as great if not greater inducements than those offered by any other part of the Dominion, it seems to the undersigned only right that she should receive her full share of the benefits to be derived from the existence of every branch of the immigration service of Canada. I had the honor of mentioning this matter to you immediately on my return and I believe steps were taken by the Government, which will insure to this Province full justice in this regard in the future.

I was anxious if possible to find out what number of emigrants had been induced to come to Ontario by the direct work and influence of our Liverpool agency, but it was impossible to furnish me with this information. The agency does not send out emigrants, as that is done only where contributions are made to assist either by free passages or a percentage of the same, in which case a record of persons emigrating with such assistance

is kept. The work of this agency being only educative and advisory, as I have said before, it is unable to tabulate how many persons have come out here owing to its efforts.

In closing my remarks upon the Liverpool agency, which is the only agency we have outside of this Province, I beg permission to say that I think the work performed by it is of great value to the Province generally and is efficiently and economically done. There is kept flowing from there a stream of information about Ontario, its resources, wealth, advantages, etc, and that stream is practically the only place where a man can fully quench his thirst for information about this Province. The spreading abroad of a knowledge of the opportunities offered by Ontario to all industrious and energetic men has, in my opinion, many times exceeded in value the small annual grant expended upon the agency.

With your permission I desire to offer a few observations upon the subject of emigration from the United Kingdom to Ontario. I had many interesting conversations with intelligent men in England and Ireland—I did not visit Scotland—upon this subject, and I received from them valuable information in addition to what I obtained from Mr. Byrne, Mr. Watson, Curator of the Imperial Institute, and Mr W. T. R. Preston, Superintendent of Immigration Agencies for the Dominion Government, whom I found anxious to do all he could to promote emigration to his native Province. Upon the information so obtained and my own observations I have come to certain conclusions which I submit, hoping that you will bear in mind that in the short time I had at my disposal and in my then state of health it was only possible to make a brief and limited study of an extremely interesting question, which is of first-rate importance, for upon the growth of its population depends in a large measure the future greatness of this Province.

The class of persons most wanted in this country are men who are familiar with or anxious to adopt farming in Ontario as a means of livelihood. This class may be dealt with under three heads:—first, farmers with small capital, and this is the class most desired; second, young men well educated, who have to make their own way in the world with limited capital, and who are turning their eyes in the direction of the colonies hoping to go out there and farm; and third, agricultural laborers.

With respect to all these I offer the general observation that we need not look for any extensive emigration of them from the British Isles at the present time. Times are extremely good in the Mother Land. Owing to the war in South Africa large numbers of the flower and youth of the country have gone out there in the army, volunteer corps or some other capacity. In addition, the militia regiments have been called out and kept embodied as home garrisons. Indeed, I was informed by an excellent military authority that though there were only two regiments of the regular army in the country at the time of my visit, all the barracks and military camps, were filled to overflowing. Now the effect of this abstraction of men from their everyday pursuits has been to create full employment for those remaining at home, who are able and willing to work. Secondly, it has largely increased wages. In addition the Government has been spending enormous sums for supplies, munitions of war and manufactures of all sorts and varieties. Plenty of work at high wages with lots of money in circulation means prosperity and contentment for all classes, and this is the condition prevailing there to-day. When a man is contented and happy he is not apt to tear up home roots and separate himself and his family from relatives and friends, go to a new and distant country with all the uncertainties incident to such a step and settle down among strangers. Under the depression, if not despair, incident to hard times a man may take such a step, even then regretfully, but the inspiration of prosperity and happiness is to plant him more firmly in his native soil. Hence I say I look for no large emigration from the British Isles at the present time. When the war is over, the mass of youth and energy released and expenditure curtailed, our opportunity will come, and we ought to be prepared for it. At any rate, farmers with capital are the best class we can bring here, and I am sure that Ontario is the best country for such a class to emigrate to. Here they can obtain partly improved farms with clearings ready for the crop at reasonable rates, and the persons from whom they purchase will be released for settlement in our newer districts. This latter class, with their knowledge of the country, their energy and capital, will soon make comfortable homes for themselves and become prosperous in New Ontario. Here we serve a double purpose—introducing new blood and capital in the older parts, and experienced and energetic men in the newer parts of the Province.

With respect to the young men with means about to embark in farming, they, too, would be valuable settlers either in the older or newer parts of the Province, if they can be kept out of the hands of harpies, who under the pretence of teaching them farming, would absorb their capital without giving them anything in return. If the Government of the Province could see its way clear to promise this class of benefit of a thorough training in the Agricultural College at Guelph, or in a similar institution elsewhere, charging them full value therefor, with perhaps the promise of a refund of a portion of their money when they became actual settlers upon lands in this Province, it would be a good idea and might be the means of attracting a considerable number of this class to Ontario.

As to the agricultural laborer, he is better off to-day both in England and Ireland than he has been for a long time. I had this forcibly brought home to me in the wilds of Donegal, in the north of Ireland. I was pointing out to an intelligent laborer the benefits of emigrating to Canada. After I had finished he said, "Why should I emigrate now that I am better off than I ever was? I am getting two and six pence to-day, where I used only to get one and six pence." I presume my countryman's answer would be echoed by the English agricultural laborer, if it were suggested to him that he would emigrate to Canada at the present time, but putting this aspect of the question to one side, I am satisfied that we shall not get any considerable number of agricultural laborers, even if wages in the Old Land return to their normal state, unless and until we are prepared to give them either free or assisted passages and promise to give them employment when they arrive here. The English agricultural laborer usually has a large family and with the wages he receives will never be able to save money enough to bring him and his family to Canada. I have no doubt that agricultural laborers would be one source of strength in building up the farming interests of this Province, if they could be brought out in considerable numbers, but if we desire to have them here, we will have to enter upon some policy of assisting them to come out.

My attention was directed to the importance of inducing female domestic servants to emigrate to Canada, for, as you know, they are in great demand in the cities and towns of Ontario and elsewhere in the Dominion, and if a number of them could be induced to emigrate I have no doubt they would be immediately employed at good wages. I made this question the subject of some inquiry and I found that the domestic servant question is a problem in the Old Land just as it is here. I was assured that there were so many new avenues of employment opening to young girls, presenting greater attractions than domestic service, that it is a most difficult thing even there to get a good reliable servant, and the work is becoming specialized—fewer general servants, (the class we most require) more parlor maids, house maids and upper servants of various kinds. The difference in wages in the two countries at the present day is not so very great although they are slightly higher in Canada than they are in England. Female servants have their home ties too, and they will not break them and come out here to uncertainty and among strangers, unless they can better their condition to a very great extent. Indeed I should say that they are much less likely to emigrate than are men. In discussing this matter with Mr. Byrne, Mr. Watson and others, they told me that they had at various times issued leaflets pointing out the openings for female domestic servants in Canada and that they had plenty of inquiries, but the applicants invariably wanted to know if their passage money would be advanced and to have some certainty as to their wages and the sort of situation they were likely to get on their arrival here. No satisfactory assurance on these points being possible, the girls took no further interest in the matter. If it were possible to get some organization here under the control and direction of some philanthropic ladies, by which well recommended girls might be brought out and immediately placed perhaps something can be accomplished. Failing action of this kind, the only thing that can be done so far as I can see will be for Mr. Spence, Secretary of Colonization, to keep a register of places vacant, what kind of servants are required, and what wages will be paid to girls well recommended as to character and efficiency. This information might be forwarded to Mr. Byrne from time to time, so that he might give to those inquiring something which would satisfy them, as to the nature of the work, wages and other particulars. This would have the result of bringing the servants and those desiring to employ them in some sort of contact, for which there is now no provision. Of course this machinery would be necessarily slow in

action and somewhat cumbrous, but in the absence of any better, it is the only plan which suggests itself to me.

In conclusion, I am sorry that I did not have more time to go into the whole question of emigration and make a study of it Such conclusions as I have arrived at are largely, of course, from the surface and upon information given me. Finally, I am only expressing the opinion of every well wisher of this Province when I say that it is of vast importance to its future prosperity and the development of its newer parts, that every effort should be made to bring in population, more particularly from the Mother Isles, as the greater the proportion of those trained under British institutions, the more solidity and strength there will be in our social fabric.

I have the honor to be, Sir,
Your obedient servant,

AUBREY WHITE,
Assistant Commissioner of Crown Lands.

THE HONOURABLE E. J. DAVIS,
Commissioner Crown Lands.

APPENDIX No 3.

REPORT OF THE ASSISTANT COMMISSIONER ON THE IMPERIAL INSTITUTE

DEPARTMENT OF CROWN LANDS,
Toronto, October 14, 1900.

SIR,—I have the honor to report that in accordance with the instructions contained in your letter of the 7th June last, as soon after my arrival in England as the state of my health would permit, I visited the Imperial Institute in London for the purpose of inspecting the various exhibits therein, and, as far as circumstances would enable me to do so, of reporting my impressions with respect to them.

I examined the exhibits of the colonies and dependencies generally, but my immediate attention was given to Canada's exhibit and more particularly to the section thereof pertaining to the Province of Ontario. My instructions required, among other things, that I should compare our exhibit with those of the other colonies and dependencies, and ascertain if our exhibit was adequate and suitable for the purposes intended; if not, wherein it was weak or deficient, and how it could best be improved and strengthened, what general impression the display made upon my mind, and, having regard to my inspection and such information as I was able to obtain, an expression of opinion on my part as to whether in the interests of Ontario our exhibit should be maintained or discontinued.

My time in London was necessarily limited, and the state of my healtth did not permit close and continuous attention to in door work; hence my inspection was not as minute in detail as I desired to make it, but it was close enough to inform my mind upon the important points in connection with Ontario's exhibit and to give me a general idea of the collections of the other colonies and dependencies, and thus enable me with some degree of intelligence to discharge the duty entrusted to me.

Having completed my inspection of the exhibits in the building, I had the pleasure of calling upon the curator of the Canadian section, Mr. Harrison Watson, with whom I had a long and interesting conversation, and who was extremely courteous and anxious to give me full information upon all matters connected with the work of the Institute, and to indicate how, in his opinion, the objects aimed at in the establishment of the Institute might be more fully attained than they are under existing circumstances.

In order to consider intelligently the effect of the work being done by an institution of this kind, and to arrive at a conclusion as to how far it is serving its original purposes and whether it is worth being continued, it is necessary to refer back to the aims and objects

of its establishment. It will not be necessary to go into details ; the foundation principles will be sufficient. Although I am not thoroughly informed upon all the expectations that were entertained at the time of the establishment of the Institute, there are certain of them which stand prominently forth and are basic as far as we are concerned. They are as follows :—

(1) The formation and exhibition of collections representing the important raw materials and manufactured products of the Empire and of other countries, so maintained as to illustrate the development of agricultural, commercial and industrial progress in the Empire, and the comparative advances made in other countries.

(2) The establishment and promotion of commercial museums, sample rooms and intelligence offices, in London and other parts of the Empire.

(3) The collection and dissemination of such information relating to trades and industries, to emigration, and to the other purposes of the charter as may be of use to the subjects of the Empire.

(4) The advancement of trades and handicrafts by exhibitions of special branches of industry and commerce, and of the work of artisans and apprentices.

(5) The promotion of technical and commercial education, and of the industrial arts and sciences.

(6) The furtherance of systematic colonization.

(7) The promotion of conferences and lectures in connection with the general work of the Institute, and the facilitating of commercial and friendly intercourse among the inhabitants of the different parts of the British Empire.

(8) The doing anything incidental or conducive to carrying into effect all or any of the foregoing purposes.

Before proceeding to speak of the exhibits, etc., I desire to refer briefly to the building, its appearance, accommodation and situation, as these have been the subject of more or less criticism. The building was erected by public subscription to commemorate Her Majesty's Jubilee of 1887. It is a really magnificent structure in every sense of the word, worthy of the occasion it was designed to commemorate, and in itself well calculated to invite inspection by visitors and sightseers, even if it did not house the interesting and important exhibits which so fully display the wealth and infinite variety of the resources of the Empire. The accommodation appears to be considerably beyond what is required for the purposes of the Institute, for notwithstanding that there is space to spare in the various rooms occupied by the colonies and dependencies, I understand that quite recently half of the building has been handed over to the University of London for educational purposes, and this disposition of that part of the building not required for exhibition purposes is fortunate in one respect, because having this great educational institution tenanting the same building as the colonial exhibits will be an additional attraction to a great number of visitors, especially those interested in educational matters.

The situation of the Institute is at some considerable distance from the centre of business life in London, and this has been found fault with, but considering the magnitude of the building and its primary object, I do not think it would have been financially possible to build it nearer the centre of the city, and having regard to the galaxy of glorious educational and scientific institutions by which it is surrounded, all of which attract a large number of visitors, I think it is eminently well placed as one of such a magnificent group. Personally I was greatly and favorably impressed with the beautiful and spacious building, its accommodation and surroundings.

Speaking generally of the exhibits from the different colonies and dependencies other than Canada, while I found all of them interesting and instructive, I was particularly pleased with those of India and Australia. In the Indian exhibit there are models which show the agricultural methods ; and the habits of the people, tilling of the ground, planting of the seed and harvesting of the crops are well illustrated by carefully prepared models, while there is a good exhibit of the products and limited manufactures of this great dependency. In the Australian collection there is a capital display of the products of that vast country, but one is particularly struck with two things, first, the attractiveness of the auriferous mining exhibit, which is made bright and showy by fac similes of all the gold nuggets of any size which have been found in that great gold fields of that island ; and second, the excellent views of the public and other large buildings which are placed

there, and which in my opinion bring sharply to the attention of the world a clear idea of the wealth, public spirit and charity animating the people of that country. These, side by side with the specimens of its natural products and resources, must strongly impress all who inspect them.

With respect to the exhibits from the other colonies and dependencies, excepting those of Canada and those of Australia and India already referred to, they are all extremely interesting as well as educative. Here grouped under one roof is an exhibition of the endless variety of the bounties of nature and the productions of the cluster of nations across the sea owning allegiance to the mother country, which fully illustrates their great commercial and wealth-producing possibilities.

In entering upon a consideration of our own display, I desire to express the opinion that there are two broad purposes which may be served by an exhibition such as that in the Imperial Institute. First, there is what may be called the "museum" purpose. The exhibits may be treated as illustrating the productions and manufactures, as well as the progress in arts and sciences of the various countries at the time the collection was made, in which case there is no great necessity to keep it up to date. It will serve a good and useful purpose by enabling those who come after us to see what our resources and manufactures were in the year the Imperial Institute was established. Second, the Institute may be used to serve the purpose of a great commercial agency for the colonies. Here might be placed samples of what we produce or manufacture, with information as to the localities where found, the quantities, cost of production, freights and other information, which would enable business men not only to see products what we have but to know in what quantities they exist, and what their cost would be at the seaboard, and so learn whether it would pay them to come to Canada for raw materials and other products they have been getting elsewhere. This may be called the "commercial" side of such an Institute.

A museum, of course, is interesting as fixing a starting point from which to measure the progress of the country, but it does not necessarily promote trade. A first-class, up-to-date exhibit, if properly selected and placed in charge of an active, well-informed commercial man, would be a most aggressive mode of promoting trade between the Mother Country and her numerous progeny of nations. Of course, if the museum purpose is the only thing aimed at there is not a great deal more to be done, although there are certain weaknessses in the exhibit even from that point of view, but these, of course, the governors and curator of the Institute will call attention to, and I have no doubt in due course their recommendations will be acted upon. If, however, the promotion of trade is to be the main object of the Institute, then there will have to be a considerable change in the mode of management and in the kind of "samples" we keep on view there. In dealing with the commercial aspect, I, of course, am somewhat at a disadvantage through lack of technical knowledge and familiarity with commercial methods, but there are certain broad ideas based upon common sense which, in this as in other matters, are patent to every observing and thinking man who inspects the Institute, and some of these I will endeavor to enumerate.

The exhibit of our products and manufactures should be varied, bright, clean, full in every line, and kept up to date with the very best samples procurable. Anything less than this will not serve the purpose intended, while a half-hearted attempt to make a trade exhibit will tend to depreciate our trade possibilities and have a bad effect on our future. That the Institute might be made useful in the promotion of our commercial possibilities is not open to doubt, because the curator, Mr. Watson, is constantly having transferred to him for reply inquiries directed to the Agent General for information about our products and manufactures, and in addition is in receipt of a large number of letters written to him personally by merchants and others seeking information about our manufactures, prices, etc, etc. Mr. Watson is well informed, and supplies valuable information about our trade and the various resources of the country, etc., but I should think he would almost dread a visit to see "samples," as an alert business man looking for new sources of supply would not, I fear, be favorably impressed by an inspection of what we have on exhibition there. Let me illustrate by a few examples what I mean. Take our exhibit of fruit and vegetables. These are two things the appearance of which goes a great way with intending purchasers. The specimens we have there, some of them preserved in spirits, are fair as to size, but they are not bright and fresh looking. They have an old look, calculated to repel rather than attract. Then the grain exhibit is not

nearly as good and varied as it ought to be in order to do justice to our great grain-growing capacity. It ought to be largely added to and many of the specimens now there removed and newer and better samples put in their place. There is no exhibit of corn, nor is there anything to show that we raise tobacco, and I think it is important that some evidence of our ability to grow tobacco should be on exhibition there, as it is generally regarded as a tropical plant, and would remove the idea which is entertained that we are a hyperborean people. I think it would be well that it should be known that "Our Lady of the Snows" not only grows good tobacco, but manufactures tobacco and cigars on a considerable scale.

Then again, having regard to the importance of the mining industry in this Province and the necessity for capital to exploit our mines, the mineral exhibit in the Institute is altogether too small. The specimens are not up to date—not what they ought to be if we hope to make a favorable impression upon men desiring to invest money in our mineral resources. There is nothing indicative of the immense industry which is springing up in connection with our iron mines and manufactures, and on the whole I was disappointed at the limited and poor exhibit we make of our mining resources and productions when we ought to have an exhibit there which would challenge admiration.

Forest products, too, I think, considering our immense natural wealth and the rapid strides we are making in the manufacture of woodenware of all kinds, ought to have an exhibit which would place us before the world as a country of great and varied forest resources and industries. Our present showing in the Imperial Institute is indicative of feebleness rather than strength, and does not do justice to one of our greatest industries. A few sections of logs and boards, a few doors and one or two other articles of no great importance are poor advertisements of what we have and can produce. This collection ought to be first-class in every respect and all varieties of wood and the manufactures thereof represented. The exhibit of our forest resources ought to be one to create surprise and inquiry; but here, strange to say, there is nothing to arouse attention We have enormous possibilities in the making of furniture, and already quite a business is springing up in the making of chair parts for the English market, but there is nothing here to indicate that such an industry exists. Every variety of wooden doors, mouldings, sash, pails, furniture, school desks, etc., of all of which we are producing large quantities, might be represented here with great advantage; and strange to say, though we are large producers of pulp, for which we have perhaps the greatest latent capacities of any country in the world, there is nothing here which would indicate that we have any resources in what is becoming one of the important industries of modern life, no specimen of mechanical or sulphite pulp, nor anything to indicate that we can and do make paper. Then again, in the tanning business there is nothing to inform the tanners of the Old World that we possess enormous hemlock forests, nor is there anything to indicate to the leather merchant that we have a large and increasing leather industry. I might go on and point out numerous other weaknesses in our exhibit for trade purposes, but enough has been said to indicate generally how incomplete it is and how far it falls short of what it ought to be.

With respect to what should be done, I venture to express the opinion that in the interests of our trade with the Mother Country either the exhibit in the Imperial Institute should be brought down to date and kept fresh, full and efficient for trade uses, or that a commercial agency for the promotion of Canadian trade should be established somewhere in London with an active, well-armed commercial man in charge. If the Institute display is to be used for commercial purposes, I think it would be better if the duplication of exhibits incident to each Province being represented could be avoided. As you will readily understand, there are certain raw materials common to two or more Provinces, but one has them in better quality and larger quantities than the others, and the one that has the best should be the one to make the exhibit, but under present circumstances there is a weak representation from one Province and a strong exhibit of the same thing from another. I think it would be better to make the exhibit a Canadian collection, each Province sending its best productions. If this were done we would have a strong Canadian exhibit instead of several weak Provincial ones. The Agent in charge could inform inquirers where the best specimens came from and give all particulars. In view of the exhibits from each Province being placed in an Institute founded to commemorate so joyful an event, perhaps all the Provinces might not consent to a change of system, but

desire to be represented as they are. If that is so, then the Government of Canada should take over the duty of making a proper trade exhibit and relieve the Provinces of any charge or responsibility therefor, and it ought to be a showing which would do us infinite credit. If the Provinces were unwilling to surrender their exhibits on being relieved of the responsibility and expense incident to looking after them, then I suppose the Provincial exhibits must remain on the present lines, and the expenditure in looking after them must be on sentimental grounds, that is to say, the Institute having been established and the exhibits placed there to mark an historical event in the life of the Queen, namely, the completion of fifty years of Her reign, it is proper that we should bear the proportion of the expense originally promised. But there can be no justification of the present exhibit for trade purposes, as it does not do any credit to our trade possibilities and resources.

I think there are great opportunities for the extension of our trade with England at the present time. England's heart is filled with love and pride for her colonies, and especially does she feel proud of Canada. All have given of their blood and treasure in the Empire's day of need, and that has touched the heart of English men and women from the Queen down to the simplest boy or girl. We, in Canada, have gone further than the other colonies in endeavoring to foster trade with the Empire. The preferential tariff on British goods is recognized by the English people as a sacrifice for the promotion of trade with England, and that seems to have given us an additional hold upon their affections. My experience was that to say, "We are from Canada" was to call out the warmest expressions of admiration and respect for our country. "Canada, we are all proud of her"; one heard that everywhere, and where this sentiment prevails so strongly and widely, I feel sure English merchants will not be slow to purchase from us all we can sell them of what they want. In talking this matter over with gentlemen well informed on trade questions, with many of whom I came in contact, they said they were sure English business men would rather trade with Canada than with foreigners, but I do not think from the conversations I had with them, that we can expect any preferential tariff in our favor. The interests disturbed by such a departure would affect the principles upon which English trade is conducted all over the world and lead to endless complications. All we can expect is that we will be preferred if they can do nearly as well with us as elsewhere. Now there are certain things in which we can do better for them than those they have been dealing with, and others in which we can do as well. We have immense natural resources; there is a vast field here for the investment of capital and the extension of trade. We ought to try to educate the English people as to our resources and manufactures so that we can get a larger share of the English markets, and the readiest way in which that can be done is by establishing a commercial agency on a considerable scale in London, well supplied with samples that will do us justice and command interest and inquiry. This agency should have its head a well-informed business man, a man who knows Canada, its resources and manufactures thoroughly. He should know all our raw materials, localities, quantities, freights; in fact, every sort of information that any man in business would require. He should be furnished with literature about Canada and kept well supplied with various samples and everything else that would be valuable in giving a knowledge of our agricultural products, mines and mineral resources and manufactures; and it should be seen, after we have acquired an entrance to British markets that we are not disgraced by dishonest or dishonorable actions of exporters. I heard statements with respect to some of our exports that were anything but pleasant for a Canadian to hear. It is a characteristic of British merchants that if satisfactory trade is established and good faith observed, the trade continues to run in the same channel, but they expect and insist on straightforward business methods and if once deceived, they will not run the risk a second time.

The establishment of a commercial agency of this kind would, of course, be a benefit to Ontario, but it appears to the undersigned that the matter is one of such great importance to the trade and commerce of the Dominion as a whole that it would be best taken in hand by the Government of Canada; first, because the Government of Canada is the custodian of the interests of the trade and commerce of the Dominion, and has professed itself anxious to extend our trade with the United Kingdom; and second, because the Dominion as a whole can better afford to establish an agency on a proper scale, and unless it is established on a proper scale and thoroughly well equipped any expenditure

would be thrown away. Whoever might be selected for the position of agent should be a first-class business man, thoroughly conversant with all branches of trade and active and energetic. Salary should not be allowed to stand in the way. I am well aware that it is impossible for Governments to pay as large salaries as private corporations, the latter of whom are always willing to pay a man what he is worth, but this is a case in which the Government ought to have the very best man procurable and be prepared to pay a salary which would secure the services of such a man.

I have been led beyond the bounds of my instructions in dealing with this question, but I trust the promotion of Canada's interests will be considered sufficient excuse for the indiscretion, if it is one, of trenching on matters not within the purview of the Government of Ontario.

I have the honor to be,
Sir,
Your obedient servant,

AUBREY WHITE,
Assistant Commissioner of Crown Lands.

The Honorable
E. J. Davis, &c., &c., &c.

ANNUAL REPORT

OF THE

INSPECTOR OF DIVISION COURTS

FOR THE

PROVINCE OF ONTARIO

FOR THE YEAR

1900.

PRINTED BY ORDER OF

THE LEGISLATIVE ASSEMBLY OF ONTARIO.

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1901.

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TORONTO.

ANNUAL REPORT

OF THE

INSPECTOR OF DIVISION COURTS

FOR THE

PROVINCE OF ONTARIO

FOR THE YEAR 1900.

OFFICE OF THE INSPECTOR OF DIVISION COURTS,
PARLIAMENT BUILDINGS, TORONTO, DEC. 31ST, 1900.

To His Honor

THE HON. SIR OLIVER MOWAT, K.C.M.G.,

Lieutenant-Governor of Ontario.

MAY IT PLEASE YOUR HONOR:

I have the honor to submit the following report upon the Division Courts of the Province, for the year ending 31st December, 1900.

EMOLUMENTS OF OFFICERS.

In the tabulated pages new columns have been introduced, as shewn by the headings and also columns giving the emoluments of clerks and bailiffs. The figures, as given in the returns, represent the *gross* yearly emoluments of the officer. The percentages payable by clerks is calculated first upon the gross emoluments and afterwards upon the *net* income. Under Cap. 18 R.S.O., 1897, clerks are entitled to retain for their own use in each year all the fees and emoluments earned by them in that year up to $1,000. Of the further fees and emoluments earned by them they have to pay percentages—of from ten to fifty per cent.—in proportion to the amount. In addition to this percentage on the gross income, a further percentage has also to be paid on the *net* income—after allowing credit for all disbursements, including the percentage on the gross, just mentioned. So that, it will be seen, the amount of total gross income given in the report, is very much reduced when the charges for disbursements and percentages are deducted.

This provision of the law is confined to Division Court clerks—Division Court bailiffs are not included. But whilst this is the case, it must not be forgotten that with the heavy personal expenses in travelling, and the keep of horses, and for assistance in their work, which bailiffs have to meet, their emoluments are also very much reduced. Many of them, indeed, but for other resources, would not have enough from the earnings of their offices to suffice for a bare livelihood. Bailiffs have also to give satisfactory bonds, to be approved by the County Judge.

Within the past few years, it may be added, that owing to the decrease of business in the courts the emoluments of all the officers had declined considerably. The returns for last year, however, shew an increase—the total amount of percentages payable to the Provincial Treasurer being $4,014, as against $3,726 for 1899.

There are over one hundred clerks whose total emoluments are under $100.
About the same number of clerks whose emoluments are over $100 and under $200.
Forty two clerks whose emoluments are over $200 and under $300
Twenty-three clerks whose emoluments are over $300 and under $400.
Sixteen clerks whose emoluments are over $400 and under $500.
Nine clerks whose emoluments are over $500 and under $600.
Six clerks whose emoluments are over $600 and under $700.
Two clerks whose emoluments are over $700 and under $800.
Three clerks whose emoluments are over $800 and under $900.

Six clerks whose emoluments are over $900 and under $1000. All the foregoing are computed on the gross returns without allowance for disbursements or clerical assistance, the disbursements and cost of assistance having to be paid by the clerks themselves. In the following list allowance is made for disbursements and assistance. The figures given being the net income :—

Six clerks whose emoluments exceed $1000 and are under $1100.

Three clerks whose emoluments are over $1100 and under $1200.

One clerk whose emoluments are over $1200 and under $1300.

Two clerks whose emoluments are between $1300 and $1500.

One clerk whose total net revenue is in the close neighborhood of $2000.

The foregoing special information is given in order to correct the large amount of misconception and exaggeration so frequently heard as to the large emoluments enjoyed by Division Court Clerks. Nothing whatever is received by them from the Government; their office fees—which are limited by the tariff, and strictly taxed, are their sole sources of revenue for the work done by them. They also have to enter into heavy bonds, and find solvent security, to be approved of by the County Judge, for the proper discharge of their duties.

Suits Entered—Amount Collected and Paid.

In the same table, (A), will be found returns of the number of suits entered in each court ; the amount of claims ; total amount of suitors' money paid into court ; total paid out, and other information, set forth under properly tabulated heads.

The suits entered numbered in all 38,686 exclusive of transcripts of judgment and judgment summonses.

The total of claims aggregated $1,202,745. Total moneys paid into court, $427,511; total paid out, $427,069.

The figures of the official returns must not be accepted as representing the full collecting powers of the court. A very large proportion of the suits entered are invariably settled out of court, of which no official returns are given.

There is now a perceptible increase in the business of the Courts, which had fallen off within the previous four years.

Jury Fund.

The figures of the returns continue to give assurance of the sufficiency of the jury fund to meet the demands thereon.

The amount paid to County Treasurers was $1,172.49, as against $1,175 97 for the previous year.

Copies of this report are mailed to all the County Treasurers, whose duty it should be to examine and compare the figures of the returns with the entries in their books.

In this connection it may be noted that the costs attending the summoning of Division Court jurors are altogether borne by the suitors in the causes in which jurors are required, and are not, as is the case in the County Court, payable out of the Parliamentary vote for the administration of justice, or, in other words, by the general Provincial taxpayer. A deposit with the clerk of the proper fees is required to be made by the party demanding a jury. If more than one case happens to be tried by the same jury, the costs of summoning jury are equally proportioned. And, independent of this, there is the jury fund, above referred to, which has to be contributed to by suitors in the Division Courts, as follows: On claims between $20 and $60, 3 cents ; on claims between $60 and $100, 6 cents. And where the claim exceeds $100, 25 cents. These amounts are taxed in all cases as costs in the cause, and the money paid over to the County or City Treasurers, as the case may be, to the credit of this special jury fund, out of which the Division Court jurors are paid.

Vacancies and Appointments.

Vacancies during the past year were filled by 26 appointments of clerks and 35 appointments of bailiffs.

Leave of Absence.

Leave of absence for short periods, not exceeding two months, was granted 32 clerks and 28 bailiffs, whose appointment of deputies had been approved. In the previous year the figures were 32 clerks and 25 bailiffs.

Complaints Against Officers—Inspection.

There were just 198 complaints against officers last year, as against a total of 237 the previous year. The nature of the complaints were of the usual character, charging excessive fees, neglect in making returns, failure of clerks to give notice of moneys paid into court, collecting accounts on commission and without suit, neglect in answering letters and neglect to pay "foreign fees," and the withholding of moneys of suitors.

The officers of the courts now number 324 clerks and 364 bailiffs, in connection with this branch of the public service. The duties of inspection have been considerably increased—and are still increasing—extending as they do over so wide an area, embracing the immense new districts, in which new courts are being from year to year established. Travel over so great an extent of territory, to offices from point to point, so remote and far apart, has to be constant and unceasing throughout the whole year and, necessarily, expensive. The correspondence of the office, as might be expected, is also very heavy, and it could not well be otherwise, where there so many officers and suitors, and sureties daily asking questions, and wanting information and making or explaining complaints—all of a character requiring special knowledge and training to deal with intelligently. The numerous letters on the files of the office, acknowledging the value of the prompt services rendered, bear ample testimony to the efficient discharge of the duties as well as to the satisfactory results. Although complaints are still numerous, I am pleased to be able to say that the number is on the decline—and that the duties are better attended to and the books more carefully kept than heretofore. And taking the officers as a body, I am prepared to say that the performance of their duties generally will bear favourable comparison with that of any other class of officials, public or private in the community.

Interest.

Interest should now be computed at five instead of six per cent., as heretofore.

On this head I would again call attention to the duty required of officers of the court. All interest should be computed and added by the clerk up to the date of issuing execution. It is the bailiff's duty to add and collect any further interest up to the date of payment.

Where this is neglected to be done, the officers in default will be held personally responsible and compelled to make good the amount.

Notice of Moneys Paid into Court.

The duty of giving notice of moneys paid into court is one which I find much neglected. Clerks should be warned against this serious omission of duty in future. The law requires that the notice should be given *immediately* after the receipt by them of any sum of money whatever. And warning is now given that all delinquents in this respect will hereafter be strictly dealt with. The section of the Act is here quoted in full :—

(Sec. 302.)—"The Clerk of every Division Court shall, immediately after the receipt of any sum of money whatever for any party to an action, forward through the post office, to the party entitled to receive same, a notice enclosed in an envelope addressed to such party, or in the case of a transcript of judgment from another court, then to the clerk who issued same, at his proper post office address, informing him of the receipt of the money; the notice thus sent shall be prepaid and registered, and the Clerk shall obtain and file among the papers in the action the post office certificate of the registration, and shall deduct the postage and charge for registration from the moneys in his hands, but he shall charge no fee for the notice; the absence of the certificate for registration from among the papers in the action shall be prima facie evidence against the Clerk that the notice has not been forwarded."

I have the honor to be,
Your Honor's obedient servant,

J. DICKEY, *Inspector.*

TABLE

RETURN of Division Court business, from the first day of January

Name of county, united counties or district.	(1) Number of divisions.	(2) Number of suits entered, exclusive of transcripts of judgments and judgment summonses.	(3) Amount of claims entered, exclusive of transcripts of judgments and judgment summonses.	(4) Number of transcripts of judgments received from other courts.	(5) Amount of claims received by transcripts of judgments from other courts.	(6) Number of judgment summonses issued.	(7) Balance of cash in court from the previous year.	(8) Total amount of suitors' money paid into court.	(9) Total amount of suitors' money paid out of court.	(10) Balance of cash in court.	(11) Number of suits entered where the amount claimed does not exceed $100, exclusive of transcripts of judgments from other courts.
			$ c.		$ c.		$ c.	$ c.	$ c.	$ c.	
Algoma	1	124	2,203 73	13	678 53	3	.....	2,163 74	2,163 74	.....	117
	2	30	1,608 02	3	233 68	1	9 80	590 07	578 32	21 55	25
	3	49	1,808 53	4	381 65	3	43 48	529 02	534 62	37 88	47
	4	58	1,632 39	....	....	1	90 66	619 60	571 07	156 44	57
	5	77	1,452 66	8	132 00	....	.....	403 72	376 62	27 10	77
	6	32	1,104 00	3	209 28	5	7 28	332 07	332 07	7 28	18
Brant	1	465	16,181 99	21	1,036 73	39	82 85	3,065 00	3,014 69	.....	468
	2	91	3,245 93	6	352 65	11	14 19	1,298 76	1,297 59	15 36	86
	3	27	881 32	3	78 51	1	.... .	316 48	316 48	.....	27
	4	57	1,629 56	3	332 74	5	1 00	702 55	702 55	11 00	55
	5	21	973 85	2	51 65	2	.....	230 65	230 65	.....	23
Bruce	1	156	6,741 92	13	964 29	9	364 07	2,317 05	2,317 64	363 48	141
	2	34	1,291 62	1	42 60	1	... ..	764 09	764 09	.....	34
	3	60	2,301 00	3	90 76	18	60 70	852 80	847 66	65 84	53
	4	47	1,641 00	3	150 87	4	18 99	499 37	507 36	11 00	2
	5	75	2,484 17	12	728 43	2	42 87	1,202 89	1,188 39	14 50	75
	6	17	661 51	1	112 15	1	34 52	466 48	433 42	67 58	17
	7	64	1,607 05	4	106 46	1	11 65	770 66	782 31	.. .	61
	8	221	5,813 02	7	185 09	13	.....	1,449 81	1,381 17	68 64	18
	9	37	2,563 21	1	46 60	5	2 00	385 70	387 70	... ...	29
	10	115	2,471 53	7	644 88	2	84 30	497 52	555 70	26 18	109
	11	240	5,339 64	6	157 15	9	... .	1,878 68	1,834 68	44 00	233
	12	111	3,444 35	8	451 24	15	.... ..	730 51	730 51	.....	107
Carleton	1	1,792	69,105 77	34	2,052 89	664	368 77	12,060 28	11,917 58	511 47	1,649
	2	48	1,742 08	5	212 08	1	.....	1,238 09	1,163 94	5 00	46
	3	31	908 17	2	216 73	3	.. ..	793 11	793 11	.... ..	29
	4	46	1,895 75	8	289 00	1	45 58	997 45	1,016 54	26 49	44
	5	20	1,133 11	3	154 39	3	64 73	717 08	781 81	.....	17
	6	61	1,619 32	5	169 13	3	. ....	856 56	856 56	... ...	57
	7	49	1,646 60	..	... .	7	118 45	549 45	441 38	226 52	47

A.

to the thirty-first day of December, A D 1900, inclusive, shewing :

(12) Number of suits entered, where claim is over $100, and does not exceed $200.	(13) Number of actions for tort, where the amount claimed does not exceed $60.	(14) Number of personal actions, where the parties consent thereto in writing and the amount claimed does not exceed $100.	(15) Number of actions of replevin, where the value of the goods or other property or effects distrained, taken or detained, does not exceed the sum of $60.	(16) Number of suits entered for claims not exceeding $10.	(17) Number of jury trials by jurors summoned.	(18) Amount paid to jurors summoned.	(19) Number of jury trials by jurors called in pursuance of Section 168, D. C. A.	(20) Amount payable to County Treasurer for "Division Court Jury Fee Fund"	(21) Amount of fees and emoluments payable to the Honourable the Treasurer for the use of the Province.	(22) Number of instances in which the Judge has allowed costs to be taxed for counsel, attorney or agents' fees.	(23) The amount of costs so taxed.	(24) Return of judgment debtors ordered to be committed.	(25) The number of such debtors actually committed.	(26) Clerks' returns of emoluments.	(27) Bailiffs' returns of emoluments.
						$ c.		$ c	$ c.		$ c.			$ c.	$ c.
6	3	.....	.....	13	....		....	. ...	.....	...	.....	....	...	245 70	108 83
5	...	.....	....	3	....	.....	....	.....	....	2	10 00	....	....	65 39	97 37
2	1	....	.....	6	....	.....	....	.....	....	3	15 00	....	....	114 40	... .
...	...	....	....	6	....	.....	....	.....	... .	3	15 00	....	....	138 01	151 37
...	....	.....	.....	19	....	....	....	.....	.....	2	10 00	....	.. ..	164 95	132 26
2	....	.....	1	9	....	.....	....	...	.. ..	1	5 00	....	....	71 65	75 23
5	10	.....	2	129	1	10 00	....	14 82	....	3	23 00	3	....	349 70	475 98
5	....	....	.....	31	1	12 00	....	2 54	.....	....	.....	....	....	199 42	110 00
...	...	.....	...	4	....	.....	....	69	.....	....	.....	....	....	62 70	18 37
1	1	.....	1	18	1	12 00	....	1 19	.....	....	.....	....	....	139 55	101 91
2	....	.....	...	5	2	22 00	....	86	.....	....	....	1	....	59 35	47 04
15	3	.. ..	.....	36	1	8 00	....	6 60	....	1	5 00	6	....	408 65	202 81
4	....	8	.....	....	....	.....	....	1 51	....	....	.....	....	....	76 63	45 13
4	2	....	1	18	....	.....	....	2 06	... .	....	.. . .	4	....	182 36	.....
...	....	.....	1	14	....	.....	....	1 28	.....	....	.....	....	....	102 00	68 05
1	...	.....	.....	15	....	.....	....	2 03	....	2	15 00	....	....	144 74	70 37
2	1	.....	.....	4	....	.....	....	80	....	1	10 00	....	....	42 50	46 00
3	..	.....	....	20	....	.....	....	1 40	.....	....	.....	....	....	112 71	105 91
1	....	.....	2	....	....	.....	....	6 33	....	3	15 00	2	....	457 68	203 95
3	....	... .	.....	9	....	.... .	....	3 13	.. ..	1	5 00	1	....	93 05	.....
6	...	.....	... .	66	....	.....	....	2 43	....	....	. .	....	....	188 67	.....
11	....	.....	.....	121	1	12 00	....	4 18	....	1	10 00	2	2	435 08	198 01
4	....	....	1	26	1	12 00	....	3 07	....	1	10 00	1	....	248 15	31 88
132	8	.....	4	339	....	....	....	69 23	1,593 47	15	135 00	275	13	4,742 45	{ 1,243 93 { 1,484 45
7	1	.....	... ..	4	....	.....	....	1 61	....	4	23 00	....	....	133 07	204 65
2	....	....	.....	5	....	.....	....	97	.....	...	.....	....	...	63 85	71 29
3	....	.....	.....	7	...	.....	....	1 68	....	....	....	1	....	121 80	116 68
3	....	...	.....	3	....	.....	....	1 07	.....	2	20 00	1	....	50 00	98 54
2	....	2	.....	15	....	... .	....	1 49	....	....	.....	....	....	107 33	85 26
2	....	.....	.....	8	....	.....	....	1 40	.....	....	.....	2	....	123 50	116 88

RETURN of Division

County.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
			$ c.				$ c.	$ c.	$ c.	$ c.	
Dufferin	1	172	6,847 82	12	749 24	17	1,076 60	765 16	772 61	22 98	163
	2	169	6,909 70	13	990 03	24	5 89	1,471 52	1,471 52	5 89	146
	3	24	1,041 00	2	55 74	3	8 52	416 81	416 66	8 67	20
	4	9	238 03	3	89 82	...	47 63	216 15	198 83	64 95	9
	5	38	1,137 21	4	98 89	8	.....	526 80	526 80	.....	38
Elgin	1	173	5,366 91	13	705 94	15	314 28	2,232 83	2,335 00	194 11	169
	2	36	1,317 84	7	422 99	3	.....	755 03	755 03	.....	33
	3	576	18,402 36	16	820 31	29	.....	6,430 50	6,624 22	.....	542
	4	126	4,125 25	16	824 46	19	21 73	1,454 54	1,453 29	22 98	138
Essex	1	77	79 00	1	1 00	19	.....	704 95	704 95	.....	74
	2	106	4,099 90	4	220 74	11	50 98	1,349 00	1,318 43	81 55	98
	3	174	4,258 85	7	80 93	27	81 71	1,896 71	1,905 45	72 97	168
	4	108	3,172 85	6	170 56	11	439 57	1,101 87	1,092 08	449 36	101
	5	104	3,703 12	13	524 21	19	61 22	2,298 68	2,333 82	26 08	99
	6	78	2,147 49	2	174 45	6	43 11	1,003 54	1,035 89	10 76	76
	7	485	17,724 85	17	860 49	80	.....	4,234 79	4,234 79	.....	444
	8	168	5,545 38	5	125 89	10	147 83	1,924 82	1,997 65	75 00	155
	9	66	2,078 39	2	91 33	11	.....	489 89	489 89	.....	74
Frontenac	1	535	19,481 01	17	755 86	165	200 76	4,620 15	4,490 51	129 64	501
	2	18	620 00	....	.....	2	54 40	124 22	177 47	1 15	18
	3	35	1,136 22	3	.....	1	.....	527 53	419 53	8 00	34
	4	48	1,164 77	6	324 76	10	29 13	181 24	153 70	27 54	46
	5	19	712 78	1	35 92	1	.....	64 64	56 37	8 27	17
	6	89	4,418 74	5	103 01	4	78 64	2,655 87	2,704 23	30 28	82
Grey	1	282	9,540 81	14	697 79	73	.....	4,424 72	4,424 72	.....	270
	2	62	2,736 94	2	71 19	10	1 44	1,199 47	1,173 75	27 16	56
	3	78	2,349 57	10	703 17	15	29 97	481 97	481 97	29 97	72
	4	76	1,896 21	11	777 66	11	10 00	698 76	698 76	.....	86
	5	155	2,930 40	13	552 69	17	51 66	1,836 88	1,873 44	15 10	152
	6	25	920 37	2	136 16	1	.....	747 42	747 42	.....	24
	7	118	4,000 85	8	388 22	6	.....	1,546 06	1,546 06	.....	111
	8	68	1,863 87	4	170 66	15	.....	1,077 61	1,077 61	.....	64
Haldimand	1	61	2,231 90	5	370 02	7	.....	692 17	692 17	.....	58
	2	29	888 94	3	74 56	1	.....	270 03	270 03	.....	26
	3	65	2,107 86	7	286 90	2	24 75	797 10	789 58	32 27	60
	4	4	166 83	...	.....	....	.....	188 13	188 13	.....	3
	5	9	167 88	4	138 85	....	.....	144 32	144 32	.....	.....
	6	79	2,389 81	6	359 14	1	49 07	948 80	911 54	86 33	4
Haliburton	1	33	817 24	4	290 25	....	.....	474 71	454 61	20 10	37
	2	26	1,050 59	....	.....	1	10 00	94 21	102 21	2 00	25
	3	58	2,320 07	9	431 71	13	.....	1,711 89	1,702 61	9 28	55
Halton	1	72	2,961 87	7	576 07	22	73 79	1,268 39	1,295 70	46 48	62
	2	100	1,859 30	2	181 53	2	124 62	865 55	900 55	89 62	96
	3	57	2,483 28	2	178 11	16	.....	1,145 04	1,145 04	.....	51
	4	43	1,241 58	4	90 00	3	.....	661 58	661 58	.....	42
	5	15	295 34	1	32 26	1	.....	173 36	161 36	12 00	15
	6	37	1,837 73	4	388 74	6	3 25	600 05	598 80	1 25	33

Court Business.—*Continued.*

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
						$ c.		$ c.	$ c.		$ c.			$ c.	$ c.
7	....	....	....	36	2	23 00	..	5 79	.....	1	5 00	2	....	439 90	30 08
6	....	5	....	35	2	24 00	....	9 75	....	2	10 00	....	....	395 00	312 65
4	....	.....	1	9	2	17 00	....	1 45	.....	2	15 00	....	....	81 25	72 50
....	1	....	....	3	...	.....	....	15	.....	....	.....	1	....	22 51	247 55
7	....	...	.....	7	....	....	....	81	.....	....	.....	1	...	89 25	26 95
4	....	.....	....	42	1	12 00	....	4 06	.....	4	24 00	....	....	372 00	301 58
2	....	... .	1	5	1	10 00	1	1 08	.....	....	....	....	....	76 85	67 87
30	4	.....	1	148	....	... ..	....	15 71	15 47	...	....	5	....	1,154 70	690 09
13	2	....	1	30	...	.....	...	3 70	.....	1	5 00	1	....	304 37	367 17
3	1	.....	1	30	....	.....	....	1 80	....	....	.....	...	...	210 17	116 87
166	3	.....	3	19	....	....	....	3 61	.....	....	.....	3	1	260 25	8 63
6	2	.....	.....	76	1	12 00	...	3 57	.....	1	5	4	....	311 15	197 38
105	....	.....	1	40	....		....	2 98	....	....	.....	...	....	252 55	191 92
5	....	....	.....	25	2	21 00	....	3 29	....	....	.....	2	....	278 00	173 19
78	2	.....	2	24	....		....	1 76	.....	1	5	....	....	144 40	330 08
34	7	.....	5	120	1	12 00	....	17 73	23 75	....	.....	42	....	1,239 50	{ 364 99 { 167 00
160	2	.. ...	.. ...	20	3	24 00	....	4 55	.....	....	.....	4	....	377 05	262 79
5	....	.....	.....	21	....	.....	....	2 60	.....	....	.....	....	....	165 98	210 09
32	9	.....	2	138	....	....	....	18 25	55 86	3	20	25	4	1,437 75	{ 42 77 { 596 76
18	...	.....	...	...	1	10 00	....	39	....	....	.....	....	....	25 51	....
...	....	.....	.....	8	....	.....	....	85	... .	....	.....	....	...	61 84	69 98
2	....	....	.....	10	....	....	....	1 07	.....	....	.....	3	....	122 46	69 20
2	1	.....	.....	4	....	.....		83	.....	....	.....	...	....	38 67	38 15
7	....	.....	.....	7	.. .	....	....	3 51	.....	..	.....	....	....	193 63	{ 118 30 { 27 37
13	6	.....	1	83	....	.....	....	7 78	.....	2	6	13	...	910 10	439 97
6	1	.....	1	10	...	. ..	....	2 92	.....	1	5	....	....	167 60	140 01
76	....	....	1	25	....	....	....	2 33	....	....	.....	....	....	200 20	160 26
1	1	...	.	22	...	... ..	....	1 39	.....	....	.....	2	....	187 62	165 74
3	7	.....	...	40	....	.....	...	2 64	.....	1	5	..	....	384 97	360 57
2	2	.	.....	7	....	.....	....	88	.....	....	....	....	....	94 80	97 10
7	....	.....	.....	27	....	.....	....	3 52	.....	....	...	....	....	189 05	130 24
72	1	.....	.....	13	....	.. ...	...	1 87	.....	...	.....	2	....	203 01	150 00
60	....	.....	2	13	2	20 00	....	1 92	....	....	.....	1	...	131 35	87 41
28	....	.....	.....	11	....	... ..	....	92	....	....	.....	....	...	57 91	31 92
4	....	.....	.....	21	....	....	....	2 12	.....	....	.....	...	....	132 55	96 71
1	...	.....	. .	1	..	.....	...	28	.....	..	....	....	....	9 75	12 54
3	....	.....	....	....	....	.....	....	06	.....	..	.....	....	....	23 56	16 60
52	....	38	...	23	....	.....	....	1 93	.....	....	.....	....	....	312 05	107 05
....	1	.....	1	7	....	.....	....	45	.....	....	.....	....	....	100 68	69 67
26	....	4	.....	3	....	.....	....	97	.....	....	.....	....	....	105 47	104 80
3	....	21	.....	11	...	.....	....	2 13	.....	3	25 00	6	....	116 35	148 29
6	1	.....	.....	12	1	11 00	....	3 55	....	2	10 00	3	....	226 80	128 58
99	....	.....	.....	31	....	.....	....	2 47	... .	1	7 50	....	....	240 29	.....
6	....	.....	.....	12	....	.....	..	2 22	.....	....	.....	....	....	142 40	96 81
1	....	.....	.....	16	1	11 00	....	91	.....	....	.....	1	....	91 40	39 70
15	16	....	.. ..	6	....	.....	....	15	.....	....	.....	....	....	30 51	....
....	....	3	... .	4	1	11 00	....	2 03	.....	. ..	.....		....	113 15	115 00

RETURN of Division

County.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
			$ c.		$ c.		$ c.	$ c.	$ c.	$ c.	
Hastings.....	1	385	11,317 91	16	757 35	11	91 13	3,073 72	3,046 66	118 19	364
	3	21	663 21	..	....	....	24 99	286 59	293 09	18 49	19
	4	99	2,176 02	5	98 86	5	.....	1,179 35	1,161 00	98 35	95
	5	87	3,313 28	4	3 90	2	18 52	889 55	862 55	45 52	53
	6	65	2,880 55	3	171 56	2	... .	1,695 19	1,695 19	.....	60
	7	148	2,306 83	5	417 95	5	53 48	932 02	896 38	89 12	146
	9	168	5,011 14	17	906 93	4	110 03	859 98	942 33	27 68	165
	10	89	2,392 30	3	47 84	3	47 77	933 01	937 74	43 04	55
	11	42	1,081 84	....	.....	....	223 00	701 23	748 38	175 85	40
	12	106	3,848 55	7	265 84	1	.....	1,438 91	1,438 91	.....	99
Huron	1	203	5,742 58	11	577 92	29	46 88	1,093 51	978 40	115 11	127
	2	149	4,584 42	5	307 64	30	22 25	1,706 82	1,626 79	80 03	165
	3	104	3,506 15	8	319 30	6	.....	1,325 85	1,325 85	.....	75
	4	51	1,600 25	2	43 96	1	8 00	611 45	565 60	45 85	47
	5	92	2,499 94	3	281 37	16	....	1,713 86	1,713 86	.....	90
	6	32	1,548 46	1	258 88	....	5 73	243 62	249 35	.....	30
	7	13	221 44	4	201 92	....	.. ...	221 44	221 44	.....	12
	8	72	2,937 37	11	483 46	3	35 16	399 18	986 17	.....	64
	9	34	1 041 97	5	543 44	4	109 04	765 88	783 38	86 54	31
	10	45	2,547 33	12	647 55	6	8 52	975 31	975 31	8 52	38
	11	39	1,619 52	..	....	1	12 00	546 87	653 87	5 00	35
	12	36	858 89	10	547 83	4	.....	514 82	373 57	141 25	19
Kent.....	1	408	1,363 38	35	1,576 99	46	929 77	5,052 86	4,452 38	1,530 25	378
	2	217	7,387 43	12	465 12	24	.....	2,119 10	2,008 45	110 65	203
	3	90	3,029 06	11	649 39	7	7 27	1,432 81	1,457 29	88 84	95
	4	214	5,028 82	7	319 82	66	166 37	2,285 39	2,257 33	194 43	205
	5	241	10,641 71	12	671 62	27	44 93	1,116 00	1,092 08	68 85	213
	6	177	6,433 24	19	1,001 38	29	....	2,632 16	2,632 16	.. ....	164
	7	123	5,285 00	18	1,422 49	12	443 29	2,041 40	2,301 82	182 87	105
Lambton.....	1	424	11,226 76	23	1,547 21	64	78 69	4,822 22	4,719 31	181 60	468
	2	58	1,985 19	8	509 10	6	15 63	839 66	829 01	10 05	52
	3	106	2,742 01	13	639 93	2	23 61	1,450 42	1,417 45	33 97	101
	4	65	2,110 87	16	593 99	5	.....	1,172 89	1,172 89	.....	45
	5	133	3,462 95	4	283 01	2	.....	2,092 68	2,092 65	.....	129
	6	21	507 01	1	17 10	1	19 09	245 59	231 00	14 39	21
	7	34	1,480 38	3	454 89	4	41 16	433 65	447 34	27 47	31
	8	228	7,296 05	18	1,261 24	14	110 98	2,683 37	2,626 93	56 44	191
	9	60	1,594 16	5	225 21	2	12 67	1,095 07	1,105 14	22 74	35
Lanark	1	166	5,681 94	9	632 69	23	.....	1,658 14	1,516 83	141 31	158
	2	20	709 28	3	107 12	1	108 79	186 60	186 55	108 84	19
	3	119	3'521 48	7	348 53	34	.....	1,136 09	1,136 09	.....	114
	4	272	9,409 57	25	1,642 29	32	40 53	2,859 67	2,822 93	36 74	253
	5	13	796 14	1	97 17	....	.....	189 30	189 30	.....	11
	6	102	2,299 06	2	109 14	5	.....	600 74	600 74	.....	99
Leeds and Grenville...	1	268	6,658 48	7	378 83	32	67 77	2,854 00	2,899 53	22 24	252
	2	175	4,802 92	6	498 92	15	158 65	2,338 36	1,935 99	542 30	106
	3	131	4,542 35	7	337 93	20	143 12	1,659 97	1,513 93	146 04	151
	4	118	4,027 63	4	324 46	16	272 20	1,254 28	1,278 50	248 28	109
	5	184	4,332 44	2	54 49	14	...	1,051 84	1,045 61	6 23	190
	6	93	2,758 23	8	189 99	23	15 00	733 88	712 22	21 66	86
	7	73	1,568 69	1	23 11	10	97 47	843 50	871 04	.69 93	72
	8	70	2,306 87	2	91 01	1	46 00	859 65	830 02	75 63	67
	9	38	1,224 78	1	27 21	5	5 70	539 10	493 35	51 45	36

Court Business.—*Continued.*

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
						$ c.		$ c.	$ c.		$ c.			$ c.	$ c.
21	....	.....	.....	143	.. .	.....	....	10 53	.....	...	.....	2	....	631 76	249 25 197 94
2	....	.....	.....	5	....	.....	....	71	.....	..	....	....	....	45 85	38 32
104	....	12	.....	30	....	.....	....	1 57	.....	....	.....	....	....	190 45	.....
81	1	....	.....	23	....	. .	....	2 38	.....	....	...	....	....	123 25	.....
5	....	....	.....	7	....	.....	....	2 75	....	....	.....	....	....	163 55	... ..
2	....	.....	....	89	....	.....	....	1 52	.....	....	.....	....	....	260 45	90 68
167	4	.....	3	61	2	17 00	...	2 73	.....	3	30 00	....	...	456 38	132 96
4	....	.....	.....	23	....	.....	....	2 20	.....	.. .	....	....	....	173 81	128 91
42	....	. ...	.....	11	...	.....	....	68	.....	....	.....	....	....	56 55	.... .
105	....	.....	.....	17	....	.....	...	3 79	.....	....	.....	....	....	248 55	173 94
7	1	.....	.....	68	2	36 00	....	5 17	.....	....	.....	8	....	562 70	172 53
15	1	.....	.....	56	..	.. ..	....	4 74	.....	....	.....	6	1	352 50	140 77
8	....	.....	.....	21	1	11 00	....	3 50	.....	....		2	2	248 15	100 50
49	1	. ...	....	10	...		....	1 37	.....	2	15 00	....	....	116 48	62 76
2	....	.....	.....	32	2	24 00	....	1 85	.....	3	20 00	....	....	185 19	147 05
32	....	....	.....	8	1	12 00	....	1 16	....	1	3 00	...	....	67 65	62 45
1	....	.....	....	5	....	.....	....	49	.....	....	.....	1	....	23 32	23 62
8	....	.....	1	14	....	.	....	3 11	.....	1	10 00	2	...	175 45	104 44
2	1	.....	1	8	....	....	....	1 05	.....	....	.....	6	...	88 15	62 32
45	....	.....	...	8	....	.....	....	2 28	.. . .	....	....	....	....	122 02	153 09
4	....	.....	.....	8	....	.....	...	1 60	....	....	.....	....	....	77 57	55 42
22	2	.....	.....	7	1	12 00	....	96	....	....	.....	....	....	55 94	37 24
130	2	.. ...	....	85	2	22 00	...	15 21	....	2	14 00	16	....	861 20	304 67 311 20
214	....	.....	.....	61	....	....	....	7 76	.....	2	12 00	5	....	424 05	280 41
3	1	.....	.....	98	1	12 00	....	2 41	....	1	5 00	2	....	204 00	131 97
213	.	.....	....	104	...	...	....	4 20	.....	....	.....	14	....	464 60	231 67
236	6	...	2	60	2	12 00	....	11 14	.....	...	.....	5	....	657 25	270 44
2	....	.....	4	52	....	....	....	5 80	.....	1	10 00	7	....	287 00	... .
120	1	.....	3	33	...	.....	....	5 61	.....	....	.....	2	....	287 45	360 52
39	3	....	.....	171	...	.....	. ..	9 83	.....	3	15 00	18	1	818 30	507 71
4	....	.....	1	13	....	.....	....	1 81	.....	2	15 00	2	....	145 10	104 57
4	3	.....	1	28	....	...	....	2 67	. .. .	....	.....	...	....	245 85	....
4	1	.....	.....	13	2	24 00	....	2 02	.....	....	.....	....	....	166 10	159 48
4	1	.....	.....	31	...	.....	....	2 16	.....	....	.....	....	....	145 95	....
....	2	....	.. ..	10	....		....	27	.....	....	.....	1	....	34 10	39 96
3	....	.....	1	4	1	12 00	....	1 50	.....	....	.....	3	....	98 25	76 69
11	2	....	.....	41	....	....	....	6 41	.. ..	2	10 00	5	....	442 15	354 52
5	....	.....	1	13	....	.....	....	1 70	..... .	2	10 00		....	104 80	113 00
17	5	.....	.....	46	....	.....	....	5 12	.....	...	.....	3	....	422 70	241 95
20	2	.....	.....	4	....		....	70	.....	....	....	..	....	32 70	.... ..
4	4	.....	.. ..	41	1	11 00	....	2 69	. .....	1	2 00	13	....	293 45	204 38
270	....	.....	.....	47	....	.....	....	10 18	....	....	.....	6	....	603 35	....
2	....	.....	.. ..	4	....	....	....	1 18	....	1	5 00	2	1	23 25	....
102	1	.....	.....	51	....	....	...	1 62	.....	....	. ....	...	....	175 80	83 45
250	...	.....	1	96	....	.....	....	7 83	....	3	15 00	2	....	562 35	182 00 53 84
4	1	.....	.....	65	....	.....	....	3 79	.....	....	.....	1	....	379 65	136 54
156	4	.....	2	39	....	..	....	3 50	....	....	....	3	....	319 91	.....
8	2	....	1	29	....	.....	....	4 11	.....	3	12 00	2	1	362 82	257 00
10	....	.... .	1	83	....	....	....	3 89	.....	...	.....	...	....	323 65	....
7	3	.....	.....	18	....	.....	....	3 01	.....	....	....	2	....	264 25	117 77
73	....	.... .	.....	27	....	.....	....	1 06	.....	...	.....	....	...	188 50	151 41
3	3	24	1	18	....	.....	....	2 13	.....	....	.....	....	....	188 25	168 50
....	....	.....	.....	6	....	.....	....	1 19	..... .	2	20 00	....	....	102 92	53 01

RETURN of Division

County.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
			$ c.		$ c.		$ c.	$ c.	$ c.	$ c.	
Leeds and Grenville...	10	37	782 20	5	322 37	5	38 80	524 81	490 05	34 76	33
	11	31	881 26	2	8 50	10	10 00	243 05	243 00	10 00	29
	12	26	624 30	....	.....	1	35 13	115 56	90 23	57 73	2
Lennox and Addington .	1	149	5,199 87	1	158 94	43	102 66	1,500 14	1,391 81	210 99	25
	2	11	574 55	....	....	...	....	297 71	297 71	.....	9
	3	3	128 84	....	....	2	.....	31 88	31 88	....	3
	4	40	128 84	....	.....	2	42 14	586 99	563 23	65 90	39
	5	33	951 69	2	40 76	1	10 27	344 30	352 30	2 27	31
	6	21	597 44	3	131 06	3	.....	306 15	306 15	.....	20
	7	72	1,532 22	3	98 47	3	7 00	1,012 04	1,007 30	11 74	71
Lincoln	1	67	2,159 15	7	158 62	4	.....	850 09	850 09	..... .	67
	2	351	12,083 15	29	1,101 29	70	1,838 55	3,455 34	4,977 82	316 67	239
	3	58	2,334 32	13	1,242 95	10	.. .	875 04	799 20	75 84	76
	4	101	4,070 34	11	514 40	14	79 11	1,201 15	1,278 26	2 00	77
Manitoulin ..	1	68	3,065 34	11	709 03	3	97 72	1,169 48	1,147 48	22 60	64
	2	38	1,124 89	3	80 94	....	2 60	425 25	395 36	32 49	36
	3	41	1,754 73	3	143 36	2	25 00	800 37	825 37	.....	36
Middlesex....	1	1,325	50,127 72	25	1,450 57	144	1,610 14	14,647 57	14,968 78	1,288 93	1,236
	2	149	4,133 07	10	725 71	10	42 50	663 77	683 57	22 70	145
	3	33	1,340 39	8	410 01	4	37 90	404 69	366 79	37 90	30
	4	36	1,274 28	4	133 51	5	.....	436 20	436 29	.....	34
	5	101	3,855 48	13	394 98	10	394 34	1,352 22	1,484 37	262 19	90
	6	134	4,782 71	12	699 56	9	79 61	2,733 28	2,618 90	193 93	131
	7	37	734 36	6	331 71	2	40 85	489 58	447 01	83 42	36
	8	8	207 71	2	81 14	...	31 20	67 08	90 28	8 00	.....
	9	446	7,642 26	9	89 73	65	165 75	2,796 11	2,606 11	190 00	439
Muskoka	1	146	3,972 34	11	621 35	16	.....	1,830 93	1,737 93	92 99	5
	2	81	3,629 47	6	202 88	4	116 66	1,006 66	983 25	11 07	75
	3	59	1,938 18	7	257 73	3	.....	598 28	582 04	16 24	56
	4	16	597 91	....	.....	....	2 94	231 05	222 65	11 34	9
Nipissing	1	78	3,597 97	7	419 27	...	117 30	960 17	997 57	79 90	73
	2	83	3,742 70	3	199 93	2	... ...	1,016 91	996 90	20 00	77
	3	154	4,551 26	13	686 88	2	61 04	2,203 86	2,234 90	27 00	146
	4	222	6,559 93	6	438 94	2	366 34	1,446 35	1,537 02	275 67	215
	5	34	1,043 80	5	392 11	1	....	290 07	290 07	....	1
	6	71	2,103 17	6	261 12	15	.....	564 56	564 56	.....	78
	7	19	465 59	....	....	....	.....	465 59	463 86	1 73	18
Norfolk	1	146	4,167 67	5	156 69	36	10 69	631 23	616 91	25 01	139
	2	94	3,015 04	6	144 39	18	85 67	1,358 45	1,314 41	129 71	105
	3	18	815 15	2	49 77	....	10 90	153 23	141 56	22 57	16
	4	57	1,671 74	13	578 39	9	85 09	438 99	421 89	102 19	54
	5	61	2,507 18	1	30 20	8	.....	640 92	640 92	.....	59
	6	71	2,103 17	6	261 12	15	.....	564 56	564 56	.....	78
	7	44	957 88	5	117 63	....	.....	243 97	343 97	.....	43
	8	31	639 50	2	90 17	...	.....	293 91	293 91	.....	.....

Court Business.—*Continued*

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
						$ c.		$ c	$ c.		$ c.			$ c.	$ c.
34	....	.....	.....	11	....	.....	....	73	....	....	....	5	...	51 97	48 57
2	....	..	.....	10	....	.....	....	77	....	....	.....	2	2	74 69	51 15
26	....	.....	.....	13	...	. ...	....	61	.....	....	....	....	....	45 34	43 28
9	4	.....	.... .	40	....	....	....	4 86	.. ..	2	10 00	4	...	385 65	....
...	....	.....	.....	3	.	.....	....	65	.....	....	....	....	....	28 54	36 40
....	....	....	....	...	....	.....	....	06	....	....	.....	1	....	10 27	8 08
1	....	7	.....	15	....	.....	....	91	....	....	.....	1	....	126 40	77 17
3	....	.....	.....	7	....	.... .	....	1 05	.....	....	.....	....	....	87 27	60 44
1	....	.....	.....	6	....	... ..	....	58	.....	..	.....	....	....	42 85	40 00
1	3	.....	1	27	....	.....	....	1 24	.....	1	10 00	1	....	186 70	{ 122 78 { 9 94
4	3	67	.....	15	....	.....	...	2 01	.....	....	.... .	....	....	154 54	99 09
21	....	.....	1	91	....	.....	....	10 50	.....	4	24 00	11	2	523 55	434 64
5	1	.....	. ...	13	....	.....	....	2 45	.....	....	.....	....	....	145 71	97 00
7	6	.....	.....	17	1	10 00	....	3 45	.....	1	5 00	....	....	266 85	....
3	1	.....	1	8	....	....	....	.....	.....	1	7 00	....	....	154 49	325 00
2	....	.....	.....	8	1	6 00	....	.....	.....	2	10 00	...	....	73 96	56 96
5	1	....	1	8	....	.....	....	.....	.....	....	...	....	....	105 55	93 87
79	4	.....	2	333	2	23 00	....	45 58	507 01	4	20 00	51	5	2,891 95	933 66
4	1	.....	.....	48	1	11 00	.. .	3 25	....	1	5 00	3	....	262 80	189 83
2	....	.....	.....	10	1	12 00	....	2 19	.....	....	.....	....	....	91 06	62 18
2	....	.....	....	10	1	12 00	.. .	1 19	.....	....	.....	....	....	92 60	60 25
11	....	.....	1	26	2	24 00	....	4 04	....	4	24 00	3	.	230 80	229 10
13	3	....	.....	27	....	.....	....	4 32	.....	....	...	2	....	304 20	200 84
1	...	....	....	16	....		....	61	.....	....	.....	....	....	61 05	65 46
...	....	... ..	.....	2	1	11 00	....	09	.....	....	....	....	....	22 32	31 30
6	....	.....	1	199	...	.	....	4 54	....	....	.....	12	..	712 20	263 25
....	3	. ..	1	75	....	.....	....	.....	.....	2	10 00	4	....	307 25	177 27
81	3	.....	.....	18	....	.....	....	.....	.....	....	.....	....	....	167 68	.....
3	....	.....	1	16	....	.....	....	....	... .	....	.....	1	....	150 30	98 20
1	....	.. ...	.....	6	....	....	....	.....	. .....	....	.....	...	....	43 40	45 38
5	....	.....	1	11	....	.. ...	....	.....	.....	1	3 00	....	....	189 60	150 45
6	....	.	1	14	....	.....	....	.....	.....	....	.....	....	....	198 20	75 71
8	....	.....	3	42	....	.....	....	.....	.. ..	....	.....	....	....	372 10	170 32
8	3	.....	2	54	....	.....	....	.....	.....	....	.....	....	....	481 90	287 20
...	....	6	. ....	...	....	.....	....	.....	.....	....	....	.....	....	86 40	34 91
2	....	.....	1	21	1	12 00	....	1 39	.....	....	.....	1	....	....	61 47
....	1	.....	.....	2	....	.....	....	82	.....	....	.....	....	....	57 67	38 21
7	3	.....	.....	57	....	.....	....	3 37	....	....	.....	3	....	354 30	213 36
7	...	8	.....	42	3	36 00	....	3 25	....	1	10 00	5	1	.....	162 13
2	3	.....	1	3	....	.....	....	89	.....	..	.....	....	....	36 25	.....
3	2	.	.....	17	....	.....	....	1 50	... .	1	10 00	2	....	135 60	74 00
61	....	.....	2	24	....		....	1 28	... .	....	.....	3	....	103 10	130 40
2	....	.....	1	21	1	12 00	....	1 49	.....	....	.....	1	...	123 26	174 58
1	....	.....	.....	18	....	.....	....	79	.....	....	.....	....	....	88 59	80 90
....	21	1	....	7	....	.....	....	33	.....	....	.....	....	....	55 26	14 50

RETURN of Division

County.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
			$ c.		$ c.		$ c.	$ c.	$ c.	$ c.	
Northumberland and Durham....	1	144	5,501 24	1	24 30	7	57 63	938 51	814 64	181 50	127
	2	37	1,056 93	....	.....	3	55 22	298 66	282 34	71 84	36
	3	122	4,621 72	1	6 18	3	35 15	1,194 22	1,192 92	36 55	114
	4	120	5,305 57	19	1,418 03	9	45 11	1,546 05	1,591 16	... ..	128
	5	215	8,081 31	11	372 11	47	....	1,557 12	1,491 12	66 00	204
	6	53	1,541 75	4	429 08	16	3 61	680 90	680 90	3 67	64
	7	112	3,118 69	3	191 03	24	129 34	1,071 97	1,079 80	121 51	105
	8	77	3,995 14	4	266 97	6	.. ...	149 63	133 09	16 58	63
	9	59	2,214 76	8	291 10	5	375 58	874 43	1,047 63	202 38	53
	10	35	703 34	3	160 25	2	6 95	216 69	223 64	.....	35
	11	127	3,574 43	7	336 12	15	.....	1,666 25	1,652 65	13 60	119
Ontario	1	155	6,280 00	15	480 60	5	71 29	1.340 47	1,340 47	.....	150
	2	64	2,269 79	4	176 89	6	.....	848 19	848 19	.....	40
	3	43	1,445 66	3	121 25	2	21 75	400 31	384 93	15 38	41
	4	67	3,682 67	9	638 14	9	7 48	549 26	556 74	.....	54
	5	84	3,885 08	9	605 75	8	39 00	2,658 33	2,641 63	16 70	73
	6	47	1,606 50	3	360 48	5	8 16	525 34	530 71	2 70	52
	7	28	1,225 57	3	316 79	6	12 67	762 75	577 57	197 85	29
Oxford	1	439	15,683 39	21	1,256 72	93	258 18	5,599 83	5,661 78	196 23	408
	2	99	3,297 97	9	397 91	9	76 27	1,869 30	1,921 63	23 95	18
	3	77	2,183 84	3	199 81	7	5 25	972 06	933 09	48 97	65
	4	115	4,221 84	11	869 87	24	50 26	1,724 47	1,732 09	42 64	136
	5	306	12,571 41	17	676 25	14	225 58	3,144 20	3,186 77	183 01	282
	6	131	4,173 15	4	234 71	23	141 07	1,500 98	1,488 65	153 40	123
Parry Sound..	1	119	3,399 96	9	790 25	4	.. ..	1,803 50	1,803 69	.....	115
	2	27	846 85	2	106 53	...	.....	180 38	180 38	.....	26
	3	13	559 92	....	.....	3	4 28	175 23	162 23	17 29	12
	4	82	2,770 41	9	574 00	7	159 14	989 05	1,098 91	49 28	82
	5	37	851 75	6	300 45	3	46 09	475 02	504 32	16 79	36
	6	61	2,305 22	8	369 31	1	4 46	553 77	533 47	24 76	60
	7	27	759 81	2	62 79	1	18 11	448 04	436 64	29 51	.....
Peel	1	72	5,683 57	2	61 70	14	17 80	1,235 72	1,225 72	10 00	58
	2	98	2,783 04	14	852 29	10	.....	1,921 73	1,921 73	.....	9
	3	36	1,776 06	6	294 86	7	... .	636 70	636 70	.....	33
	4	29	1,766 04	1	.....	....	35 00	301 64	266 64	35 00	26
Perth	1	313	9,289 74	22	570 12	46	373 99	4,503 00	4,879 61	297 38	291
	2	90	3,479 80	7	294 00	19	44 80	1,458 39	1,434 60	68 58	85
	3	105	3,761 12	10	330 03	10	.....	1,838 93	1,838 98	.....	105
	4	41	737 59	3	7 44	4	.....	398 78	398 78	.....	41
	5	50	1,437 31	10	314 45	7	29 42	881 55	910 98	.....	56
	6	132	5,355 96	7	154 36	14	.....	1,743 45	1,743 45	.....	127
Peterborough.	1	511	19,897 90	27	1,246 20	57	.....	5,426 38	5,426 38	.....	475
	2	61	1,803 51	18	1,202 65	3	.....	1,081 13	999 78	81 35	52
	3	no	business.								
	4	65	2,383 33	2	74 81	1	115 50	1,231 04	1,322 33	24 21	62
	5	2	198 09	6	352 75	....	.....	14 00	14 00	.....	6

Court business.—*Continued.*

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
						$ c		$ c.	$ c.		$ c.			$ c.	$ c
7	2		1	35				4 94		1	5 00	3		327 55	219 21
	1			10	1	12 00		94				2		82 92	79 18
8				27				4 31		1	5 00	1	1	355 00	
147	1			27				4 10				5		280 85	268 15
213				64	3	27 20		5 75		2	10 00	16		651 22	381 79
66				26				1 91				5		120 89	132 92
110	1			50	3	20 00		2 98		3	20 00	13		297 70	160 20
			1	13				1 33							125 23
6				21				2 22				1		159 65	105 86
				13											40 83
8	3			28	2	25 00		4 46		2	10 00	2		271 75	202 62
5			1	50				7 35		2	10 00			328 30	279 37
4	1			19				1 90				1		168 58	74 92
2	1			5				1 31						125 95	
13	4			7	1	10 00		4 48						197 11	235 40
10	3			19	1	12 00		3 94		2	20 00			274 04	179 79
				8				1 23				1		82 40	48 49
2				6				1 14		2	20 00			87 21	110 05
131	3			105	4	35 00		14 95	9 77			20	1	1,097 70	698 27
3			2	22				2 85				1		220 85	182 72
2	2			15	1	11 00		2 09				2		165 40	184 57
10	3	14	3	27	1	12 02		6 93		1	15 00			346 73	325 19
24				59	1	11 00		12 27		5	20 00	6		726 28	384 12
3	1			25			1	4 19		2	8 00	9		272 55	190 00
2		2		17						1	5 00			268 35	142 25
27				7										58 30	
				3										29 70	
				23								1		209 17	248 63
37	1			12										78 22	93 08
1			1	5										139 90	179 42
				3										77 83	59 30
14			1	8	4	44 00		5 23		2	14 00	2		245 00	194 23
9	2			8	3	36 00		2 56		1	5 00			242 75	181 92
3				5	1	12 00		1 65				1		131 05	
3				4	1	12 00		2 10						33 25	13 81
16			2	82			2	8 23		1	10 00	2		778 45	487 70
4	4			20				2 99				4		241 10	169 35
2		1		26				3 12				1		199 25	128 02
				22		1 25	1	75						72 25	53 97
	1	1		13				1 59						114 58	110 87
5				30				5 70				1		290 30	200 43
33	3		2	117	3	27 50	1	17 43	15 29	1	7 50	10		1,152 90	654 85
3				12	2	23 00		1 86						145 95	
2				13				2 04						159 00	118 56
2								25						7 02	

Return of Division

County.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
			$ c.		$ c.		$ c.	$ c.	$ c.	$ c.	
Prescott and Russell	1	13	226 00	4	9 70	1		276 54	276 54		13
	2	65	2,398 63	1	10 80	4	201 60	478 13	519 73	160 00	60
	3	66	1,225 32	1	14 24			665 17	665 17		63
	4	27	747 18	1	5 70	6	57 28	285 38	310 53	32 13	26
	5	39	1,522 42	6	210 13	3		558 13	548 13	10 00	36
	6	34	597 86	3	164 62	3		400 37	400 37		34
	7	91	1,234 00	3	95 41	41	389 08	1,562 49	1,648 52	303 05	90
	8	27	824 68	4	286 33	1	5 00	297 78	300 78	2 00	27
	9	22	1,047 08					479 48	479 48		18
	10	139	3,969 37	3	154 78	13		1,832 40	1,777 40	55 00	122
	11	109	2,490 38	7	345 32	10	5 00	1,269 84	1,221 35	48 49	109
Prince Edward	1	148	6,528 27	4	423 52	8		1,625 00	1,625 00		140
	2	45	1,485 45	1	22 33	8		281 76	746 60		42
	3	6	219 38	2	108 65			291 30	291 30		6
	4	13	654 31	2	40 00			601 25	601 25		10
	5	14	543 13	1	190 75	2		316 04	316 04		12
	6	26	814 85	1	17 28			79 46	67 96	11 50	5
	7	12	510 00	3	64 63			166 10	166 10		6
	8	5	115 54			2		8 25	8 25		7
Rainy River	1	505	25,653 37	11	937 00	88	400 20	7,227 98	7,121 25	506 93	450
	2	4	171 40	1	22 08			4 54	4 54		4
	3	38	1,547 59				21 90	225 21	247 11		37
	4	26	1,158 67	1	49 97	1		149 95	129 95	20 00	26
Renfrew	1	234	9,975 51	7	485 08	17	92 10	1,942 60	1,963 52	71 18	193
	2	17	732 67	2	147 33		18 75	328 68	319 81	8 87	15
	3	168	5,857 82	12	663 52	10	132 06	2,487 15	2,593 15	26 06	135
	4	177	5,790 51	22	954 37	3		4,021 86	3,868 41	153 45	167
	5	20	1,179 66	4	228 84		46 04	201 72	227 56	20 20	18
	6	89	3,306 37	5	281 47	1	15 00	1,041 22	1,032 52	23 70	84
	7	61	1,481 61	7	323 12	3	68 32	779 16	847 48		50
	8	58	2,199 00	3	259 49	7	135 62	1,034 62	1,026 95	7 67	54
	1	250	9,888 55	10	482 39	12	30 00	2,881 89	2,887 47	24 42	240
	2	67	2,349 57		291 90	8	34 45	1,244 26	1,278 71		66
	3	78	2,494 65	10	1,218 46	3		560 36	540 72	19 62	75
	4	133	5,237 98	12	334 55	21	14 89	2,327 08	2,331 75	10 22	128
	5	45	2,079 97	9	358 79	5	50 66	401 57	420 00	32 23	40
	6	139	7,621 31	6	294 18	7	173 08	2,054 95	2,112 47	85 56	116
	7	20	590 42	4	54 00		457 39	139 39	111 64	485 14	19
	8	121	5,941 27	6	442 83	10	223 03	1,664 26	1,801 38	85 91	111
	9	240	7,670 81	11	489 86	45		4,328 64	4,309 20	19 44	262
	10	68	2,908 79	5	241 49	6	25 00	1,544 96	1,488 07	46 00	66
Stormont, Dundas and Glengarry	1	60	1,479 53	2	88 80	9	53 18	1,026 64	1,065 82	14 00	59
	2	132	4,504 43	3	113 91	8	135 39	853 39	834 72	18 67	134
	3	394	7,990 49	7	252 88	23	118 38	4,206 13	4,186 23	138 28	381
	4	70	1,486 26	3	84 71	16		596 12	511 54	84 58	70
	5	63	2,425 52	2	57 70	10	61 21	946 63	862 01	145 83	58
	6	148	3,964 08	1	23 42	9		1,273 02	1,223 02	50 00	147
	7	44	1,345 55	10	534 50	3	29 04	751 59	743 39	8 20	43
	8	91	3,146 34	5	197 42	5	197 10	1,982 38	2,007 73	171 75	87
	9	72	2,264 50	1	115 57	15	7 15	518 18	520 18	5 15	43
	10	132	4,390 93	9	336 99	9		1,343 32	1,343 32		114
	11	49	1,240 95	4	119 84	6	57 37	522 59	569 19	10 77	35
	12	64	1,758 16	4	151 14	10	271 25	822 28	1,050 31	43 22	70

Court Business.—*Continued.*

(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
						$ c.		$ c.	$ c.		$ c.			$ c.	$ c.
....	...	.....	.....	4	1	12 00	....	27	.....	...	.....	1	...	25 00	26 90
4	1	.....	.	18	1	11 00	....	2 08	.....	1	5 00	2	1	138 14	55 28
3	...	63	.....	19	....	.....	....	2 25	.....	....	. ....	....	....	114 96	....
1	2	.....	.....	4	1	22 00	1	55	.....	....	.....	....	....	55 95	75 91
3	....	....	....	7	....	.....	....	1 42	....	...	.....	....	....	93 76	.....
....	....	.....	.....	13	....	...	....	27	....	1	3 00	...	....	56 34	38 87
1	....	1	.....	59	....	.....	....	1 39	.....	....	.....	8	....	212 14	100 91
....	1	.....	.....	10	.	.....	....	60	....	....	.....	....	1	60 50	56 17
3	..	....	.....	5	1	12 00	....	1 14	.....	1	5 00	....	....	55 15	48 89
4	....	1	.....	38	....	.....	...	3 01	.....	....	.....	2	....	257 90	130 91
....	....	.....	.....	22	....	.....	....	1 53	....	....	... .	2	...	224 43	127 37
8	....	.....	.... .	32	1	12 70	....	5 82	.....	....	.....	1	....	336 90	301 82
2	....	...	.....	13	1	12 00	1	1 19	.....	1	14 00	....	....	92 48	77 41
6	2	.....	.....	1	1	12 00	1	15	.....	....	.. ..	....	...	16 07	14 47
....	...	.....	.....	....	....	...	....	81	.....	....	.....	....	....	41 75	.....
1	1	.....	...	4	1	11 00	1	61	.....	...	.....	...	....	29 96	.....
2	....	.....	2	6	1	11 00	....	98	.....	....	.....	....	....	50 01	40 00
....	.	5	1	1	....	.....	....	49	.....	....	.....	....	...	47 55	24 78
....	...	.....	.....	1	1	15 00	....	12	.....	....	.....	1	....	18 02	20 40
22	....	.... .	.....	1	54	.....	....	.....	48 60	....	.....	19	3	1,313 90	
....	...	.....	.....	1	....	.....	....	.....	....	....	.....	....	....	17 52	12 85
1	....	.....	.....	4	....	.....	....	.....	.....	....	.....	....	....	104 31	74 91
....	....	.. ..	.....	1	....	.....	....	....	.....	....	.....	....	....	47 55	86 00
7	. ..	.....	.....	54	1	6	....	12 70	....	10	95 00	5	1	644 50	....
2	....	....	.....	4	....	.....	....	80	....	...	.....	....	...	35 00	{ 12 75 { 13 83
146	3	.....	.....	33	....	.....	....	5 80	.....	....	.....	1	....	123 30	159 45
10	2	...	.....	46	....	.....	....	5 08	.....	....	.....	....	....	448 61	340 73
....	1	18	.. ...	....	....	.....	....	1 01	....	....	.....	....	...	47 35	61 00
5	3	.....	.....	23	...	.....	....	2 66	. .....	1	10 00	....	....	180 00	178 67
1	...	.....	.....	13	....	.....	....	97	.....	...	..	1	....	125 53	109 12
4	2	....	.....	13	....	.....	....	2 11	.....	2	4 00	1	....	159 00	227 73
10	....	.....	.....	61	2	22 00	....	9 28	.....	4	24 00	2	....	668 05	326 23
3	....	.....	.....	21	....	.....	....	2 36	.....	2	10 00	3	1	184 25	134 65
4	....	.....	.....	23	1	12 00	....	2 67	....	....	....	..	....	195 00	115 28
5	....	.....	2	22	....	.....	....	4 33	.....	...	.....	4	....	409 90	338 37
5	3	.....	....	5	3	23 00	...	2 20	.....	2	17 59	....	....	137 20	135 72
23	2	.....	1	23	1	40 00	....	8 54	.....	2	13 00	5	....	350 95	181 26
1	....	.....	.. ..	....	....	.....	....	43	.....	....	.....	....	....	.....	55 66
7	2	.....	1	20	2	19 00	....	6 14	....	....	..	1	....	306 94	224 74
10	....	.....	2	68	1	11 00	....	6 34	.....	1	23 00	16	...	509 41	352 23
1	....	....	...	16	....	...	....	2 31	. .....	....	.....	1	1	174 00	92 00
1	....	.....	.....	24	....	.....	....	1 03	. .....	....	....	....	....	121 15	113 89
1	....	.....	1	33	. ..	. .	....	4 18	....	..	.....	.....	.....	328 49	....
6	3	.....	1	120	....	.....	....	6 51	.....	3	15 00	2	....	754 70	397 38
....	2	.....	.....	30	....	....	....	87	.....	....	.....	2	....	181 75	{ 83 97 { 108 66
4	....	...	.....	15	.	.....	....	2 45	.....	....	.....	....	....	143 10	80 59
3	...	.....	....	57	....	.....	....	3 10	.....	....	.....	....	....	301 27	213 46
....	1	...	.....	11	....	....	....	97	.....	....	.....	...	....	109 40	97 07
....	4	.....	....	22	....	.....	....	2 80	....	....	.....	....	....	195 15	94 58
3	2	.....	....	25	....	...	....	1 93	.....	....	.....	....	....	159 35	160 00
9	....	.....	.....	27	....	....	...	4 50	.....	1	5 00	....	....	295 70	241 58
1	....	.....	.....	13	....	.....	....	1 18	.....	....	.....	....	....	136 28	112 34
2	....	.....	....	19	....	.....	....	1 45	.....	....	.....	3	....	135 50	164 59

2 D C.

RETURN of Division

County.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
			$ c.		$ c.		$ c.	$ c.	$ c.	$ c.		
Thunder Bay ..	1	56	2,860 63	4	396 85	2	.... ..	1,057 55	1,068 77	40 68	48	8
	3	166	8,926 51	4	114 70	8	20 25	1,570 43	1,583 88	6 80	126	30
Victoria.	1	83	2,801 19	9	501 44	16	....	1,014 86	991 86	23 00	10	2
	2	55	1,976 40	4	403 08	3	... .	351 36	351 36	....	52	3
	3	40	119 47	2	22 02	4	30 70	446 41	443 61	3 00	38	1
	4	25	684 07	2	35 26	5	....	246 81	246 81	....	25	....
	5	437	15,396 29	9	415 06	107	92 72	4,328 02	4,214 45	206 29	403	29
	6	39	958 95	3	119 90	22	54 57	566 50	591 39	29 68	38	1
	7	53	1,344 87	6	417 92	3	41 98	742 55	742 55	33 98	3	....
Waterloo ...	1	324	10,026 15	6	182 21	12	148 63	2,810 76	2,752 93	57 83	297	22
	2	134	3,931 00	5	81 23	10	....	1,474 57	1,474 57	....	12	6
	3	221	4,781 22	13	926 00	26	14 00	2,006 93	1,914 48	92 45	214	7
	4	55	2,001 74	7	416 49	4	57 47	839 16	791 38	105 25	56	8
	5	69	1,814 77	5	353 40	3	.... ..	1,028 84	1,028 84	.... ..	68	1
	6	57	1,802 29	3	46 95	8	20 00	789 97	809 97	.... ..	55	2
	7	25	1,365 23	1	35 85	1	53 00	299 20	298 80	53 40	19	6
Welland	1	191	7,510 87	9	424 59	48	....	801 92	752 31	49 61	169	17
	2	52	1,927 87	3	70 25	8	5 00	556 48	530 83	30 65	49	3
	3	148	4,751 06	5	224 01	14	18 68	2,313 17	2,215 06	116 79	148	14
	4	205	6,135 29	13	587 93	22	708 62	2,648 32	2,450 27	198 05	219	6
	5	63	2,439 34	7	416 00	12	23 00	1,229 30	1,221 05	31 25	58	4
	6	73	2,073 17	3	174 84	2	55 85	1,051 88	1,043 18	64 55	70	13
Wellington ...	1	423	12,759 26	19	907 93	76	100 66	3,019 80	3,030 75	89 71	400	19
	2	16	631 18	1	4 89	2	. .. ..	348 24	348 24	.... ..	14	....
	3	12	398 38	1	33 37	....	.... ..	134 91	134 91	.... ..	11	1
	4	52	1,911 39	10	367 49	7	15 77	500 43	511 20	5 00	48	13
	5	35	1,215 75	4	496 54	3	....	402 65	402 65	.. ..	34	1
	6	52	1,599 53	4	140 40	2	30 75	933 46	951 06	13 15	51	1
	7	71	2,151 39	4	145 03	16	5 00	857 61	855 61	2 00	80	7
	8	94	3,199 99	10	342 42	12	110 88	1,578 84	1,553 82	155 90	89	5
	10	138	5,377 88	11	362 33	30	431 44	2,110 27	2,210 48	331 22	154	5
	11	104	4,180 25	10	349 21	21	93 25	1,377 96	1,371 97	99 24	98	6
Wentworth.	1	674	21,801 18	22	823 70	72	235 55	5,273 61	5,211 28	297 88	601	66
	2	92	3,297 19	7	228 82	14	.... ..	735 05	705 39	29 66	85	4
	3	15	502 05	9	297 14	1	.... ..	159 29	159 29	.... ..	10	1
	4	37	1,303 97	5	237 34	1	12 80	604 37	608 82	8 35	36	1
	5	26	1,064 03	5	120 45	2	.... ..	633 08	633 08	.... .	28	....
	7	12	430 12	1	36 94	....	....	218 49	218 49	.... ..	11	1
	8	11	442 80	....	....	1	.... .	205 36	205 36	.... ..	9	....
	9	502	22,370 79	7	273 02	45	464 17	4,392 79	4,623 70	233 26	446	51
York ...	1	1,758	81,287 62	34	1,961 96	297	691 54	12,333 59	11,725 94	607 65	1,539	219
	2	87	5,153 94	6	332 12	26	.... ..	895 80	893 80	.... ..	80	10
	3	47	1,649 10	5	412 57	7	63 75	658 97	718 72	9 00	45	2
	4	225	8,010 24	18	1,367 97	18	206 98	1,914 69	1,763 51	358 16	196	12
	5	26	1,591 55	5	253 80	1	153 06	435 31	408 93	179 44	22	1
	6	50	3,002 63	1	115 30	4	236 11	1,321 76	983 37	338 37	42	8
	7	29	904 47	1	21 73	9	25 75	423 90	426 90	22 75	28	1
	8	151	3,887 61	10	582 89	13	2 00	979 61	956 86	22 75	140	10
	9	50	1,439 94	9	773 55	9	23 10	415 50	406 00	32 60	49	1
	10	1,659	73,492 95	62	3,220 19	321	1,057 79	9,791 02	9,663 74	1,185 07	1,532	127
Grand totals..	....	38,686	1,202,745 31	2,079	93,750 56	4,956	25,017 53	427,511 36	427,069 75	22,141 53	35491	6,697

business.—*Concluded.*

(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)
					$ c.		$ c.	$ c.		$ c.			$ c.	$ c.
....	....	....	8	....	....	....	.....	.....	....	.....	1	....	143 87	53 22
2	....	....	10	....	....	....	... ..	....	1	5 00	....	....	384 71	140 84
1	3	....	21	....	.....	....	1 85	.....	....	....	1	....	162 19	....
2	....	....	8	....	.....	....	2 11	.....	....	.....	1	....	122 24	56 24
1	....	....	19	.. .	.....	....	85	.....	....	.....	1	....	64 30	50 71
....	3	....	5	....	.....	....	36	.....	....	.....	2	....	65 00	42 62
5	....	1	125	5	64 00	...	15 10	15 23	5	45 00	37	1	1,152 30	496 18
....	....	...	16	2	12 00	....	76	.....	1	10 00	8	....	156 40	101 04
1	....	....	15	....	.....	....	72	....	1	10 00	....	....	92 48	....
1	78	2	109	....	.... ..	....	9 79	.....	1	5 00	3	....	653 81	449 67
....	....	1	47	....	.....	....	3 21	.....	....	.... ..	1	....	318 40	155 29
....	....	....	103	....	.....	....	4 53	.....	1	5 00	2	....	408 35	253 75
....	....	....	17	....	.. ....	....	1 65	... ..	1	5 00	....	.	116 99	151 54
....	....	....	19	...	.....	....	1 36	.....	....	.....	..	....	163 20	124 77
....	....	....	16	....	.....	....	1 58	.....	....	.....	1	....	142 10	104 63
....	....	...	8	....	.... ..	....	1 86	.....	....	.....	....	....	47 29	14 65
....	....	1	51	2	19 00	....	8 20	....	....	.....	2	....	153 10	435 64
2	....	....	16	....	.....	1	1 59	.....	....	.....	...	....	113 60	90 67
1	....	....	40	1	11 00	....	5 19	.....	....	.....	1	....	347 30	246 04
2	....	....	56	3	30 00	....	4 79	.....	...	.. ....	2	....	473 85	305 46
....	....	...	22	....	.....	....	2 33	.... ..	3	20 00	3	....	154 80	124 55
....	...	1	31	...	.....	....	1 83	... ...	1	10 00	....	...	136 10	62 51
4	....	4	148	1	12 00	...	9 21	.. . ...	1	8 00	8	1	886 60	405 82
....	....	....	8	1	12 00	....	71	.....	....	.....	....	...	45 37	37 33
....	....	....	4	....	.....	...	37	....	....	.....	...	....	21 29	18 45
1	....	....	13	2	20 00	....	1 67	.....	....	.....	....	....	137 71	108 32
....	....	....	13	....	.....	....	1 06	.....	....	.....	....	....	74 60	101 20
1	....	....	16	1	12 00	....	1 24	.... ..	....	.....	....	....	106 20	58 13
1	....	4	18	3	36 00	....	3 10	.....	....	.. ..	2	....	165 05	121 82
1	....	....	29	....	.....	....	2 69	.....	....	.....	....	. .	229 35	126 78
....	....	1	25	....	.. ....	....	5 02	.....	....	.....	3	....	291 85	207 51
...	....	....	16	....	.....	....	3 63	....	....	.. ....	....	....	297 95	190 18
6	....	1	182	3	24 00	....	18 36	39 90	1	5 00	26	5	1,398 90	870 25
3	...	1	24	....	.....	....	2 95	.....	2	18 00	2	....	222 50	154 38
...	....	...	4	....	....	....	49	.....	....	.....	....	....	46 43	40 75
1	....	2	9	....	....	....	94	... ..	...	.....	....	....	73 65	83 90
2	....	....	2	2	12 00	....	91	.. ....	....	.....	....	....	66 80	37 74
....	....	....	2	....	.....	....	46	.... ..	....	.....	....	....	29 60	....
....	....	....	5	1	12 00	....	.....	.....	....	.....	....	....	24 13	....
8	....	1	100	2	16 00	....	22 30	22 39	4	16 00	6	...	1,223 98	642 16
16	....	12	687	4	31 00	....	86 40	807 69	10	47 00	117	1	3,615 39	1,678 05
2	..	....	13	1	10 00	1	5 20	.....	....	.....	1	....	292 15	190 10
....	....	....	11	....	.....	....	1 62	....	....	.....	1	....	115 44	93 10
....	....	2	28	1	11 00	....	8 45	... ...	....	.....	5	....	505 20	405 08
...	....	....	6	....	.....	....	1 45	.....	1	5 00	...	....	56 25	35 72
2	....	....	4	....	.....	....	3 20	.....	....	....	...	....	97 10	107 68
...	...	....	6	....	....	....	91	.....	....	....	5	....	75 70	....
3	....	1	51	....	.....	....	2 89	....	....	..... .	....	....	293 30	....
...	....	1	11	....	... ..	....	1 12	.....	....	.....	....	....	104 50	80 55
....	....	15	285	7	43 00	...	63 40	841 46	16	85 00	113	....	3,617 15	2,080 78
363	398	160	10,356	211	1,369 97	1911	1,172 49	4,014 13	241	1,541 00	1,235	53	.....	....

TABLE B.

List of Division Court clerks, their post office address, the county and number of division in which their Courts are situated, for the Province of Ontario, up to 31st December, 1900, inclusive.

County.	No. of Division.	Clerk.	Post Office Address.
Algoma	1	E. Biggings	Sault Ste. Marie.
	2	Thomas Sullivan	Bruce Mines.
	3	Wm. L. Nichols	Thessalon.
	4	D. M. Brodie	Massie Station.
	5	H. A. Madden	Chelmsford.
	6	Wm. J. Smith	Richard's Landing.
Brant	1	Joseph Robinson	Brantford.
	2	John K. Finlayson	Paris.
	3	David Reid	St. George.
	4	Hy. Cox	Burford.
	5	Walter E. Hooker	Scotland.
Bruce	1	Wm. Collins	Walkerton.
	2	John K. McLean	Teeswater.
	3	Joseph Barker	Kincardine
	4	N. McKechnie	Paisley.
	5	Robert Munro	Port Elgin.
	6	Hugh Murray	Underwood.
	7	W. R. Hilborn	Tara.
	8	James Walmsley	Wiarton.
	9	Angus Martyn	Ripley.
	10	W. Moshier	Lion's Head.
	11	David B. Foster	Lucknow.
	12	T. J. Elliott	Chesley.
Carleton	1	J. R. Armstrong	Ottawa.
	2	Mark Danby	Richmond.
	3	Henry W. McDougall	Carp.
	4	Matthew Riddell	Galetta.
	5	John Kerr	North Gower.
	6	Daniel McLaurin	Metcalf.
	7	F. W. Harmer	Mosgrove.
Dufferin	1	Joseph Pattulo	Orangeville.
	2	Hugh Falconer	Shelburne.
	3	J. A. Love	Stanton.
	4	James Henry	Mono Mills.
	5	R. E. Hamilton	Grand Valley.
Elgin	1	A. Love	Aylmer
	2	Alex. McBride	St. Thomas.
	3	Alex. McBride	St. Thomas.
	4	Samuel Maccoll	Dutton.
Essex	1	C. H. Ashdown	Sandwich.
	2	J. A. C. Leggatt	Amherstburg
	3	E. Allworth	Kingsville.
	4	C. Bell	Oxley.
	5	George A. Morse	Leamington.
	6	F. P. Boutellier	Belle River.
	7	John McCrae.	Windsor.
	8	Wm. Laing	Essex.
	9	Wm. Manning	Comber.

List of Division Court Clerks, etc.—*Continued.*

County.	No. of Division	Clerk.	Post office address.
Frontenac	1	Jas. S. Robinson	Kingston.
	2		
	3	C. Ruttan	Sydenham.
	4	W. H. Reynolds	Verona.
	5	F. W. Vanluven	Battersea.
	6	Mathew W. Price	Sharbot Lake.
Grey	1	Benjamin Allen	Owen Sound.
	2	Arch'd Davidson	Durham.
	3	Thomas Plunkett	Meaford.
	4	W. L. Tyson	Clarksburg.
	5	A. S. Van Dusen	Flesherton.
	6	John McDonald	Chatsworth.
	7	Duncan Campbell	Hanover.
	8	Richard L. Stephen	Markdale.
Haldimand	1	D. M. Gregor	Caledonia.
	2	David T. Rogers	Cayuga.
	3	T. Armour	Dunnville.
	4	R. A. Havill	Rainham.
	5	Robert E. Johnson	Canboro'.
	6	C. E. Bourne	Jarvis.
Haliburton	1	C. D. Curry	Minden.
	2	Wm. Prust	Haliburton.
	3	Stephen Kettle	Ursa.
Halton	1	Wm. Panton	Milton.
	2	Chas. B. Patterson	Oakville.
	3	Lachlan Grant	Georgetown.
	4	R. J. McNabb	Acton.
	5	M. Beatty	Campbellville.
	6	James Robinson	Burlington.
Hastings	1	Hartford Ashley	Belleville.
	3	A. B. Randall	Shannonville.
	4	T. McCann	Tweed.
	5	F. B. Parker	Stirling.
	6	Arthur W. Coe	Madoc.
	7	J. G. Johnston	Deseronto.
	9	James B. Young	Trenton.
	10	B. C. Hubbell	Marmora.
	11	James Haryett	Maynooth.
	12	Dermott Kavanagh	Bancroft.
Huron	1	James Yates	Goderich.
	2	John Beattie	Seaforth.
	3	W. W. Farran	Clinton.
	4	A. Hunter	Brussels.
	5	Chas. Snell	Exeter.
	6	Jas. Whyard	Dungannon.
	7	James Thomson	Bayfield.
	8	James McGuire	Wingham.
	9	Joseph Cowan	Wroxeter.
	10	Michael Zeller	Zurich.
	11	Wm. Lewis	Crediton.
	12		Blyth.

List of Division Court Clerks, etc.—*Continued*

County.	No. of Division.	Clerk.	Post office address.
Kent	1	W. B. Wells	Chatham.
	2	Arthur McKinlay	Ridgetown.
	3	Jas. T. Smith	Dresden.
	4	Arch'd Sampson	Blenheim.
	5	Chas. B. Jackson	Wallaceburg.
	6	George Moore	Bothwell.
	7	W. F. Robertson	Fletcher.
Lambton	1	George Leys	Sarnia.
	2	Wm. McLeay	Watford.
	3	John Webster	Florence.
	4	Wm. W. Stover	Sombra.
	5	Robert R. Dickey	Forest.
	6	Chas. Hall	Thedford.
	7	John McRae	Moore.
	8	W. G. Fraser	Petrolea.
	9	Richard Code	Alvinston.
Lanark	1	R. Jamieson	Perth.
	2	W. A. Field	Lanark.
	3	F. McEwan	Carleton Place.
	4	G. F. McKimm	Smith's Falls.
	5	Alex. Graham	Pakenham.
	6	Wm. P. McEwan	Almonte.
Leeds and Grenville	1	D. B. Jones,	Brockville.
	2	B. C. Hughes	Prescott.
	3	S. McCammon	Gananoque.
	4	Oliver Bascom	Kemptville.
	5	W. H. McCrea	Merrickville.
	6	N. L. Phelps	Delta.
	7	Cyrus A. Wood	Toledo.
	8	L. S. Lewis	Newboro.
	9	Isaac C. Alguire	Athens.
	10	C. W. McLean	Spencerville.
	11	J. B. Bellamy	North Augusta.
	12	M. J. Connolly	Caintown.
Lennox and Addington	1	A. Knight	Napanee.
	2	Fred. W. Armstrong	Bath.
	3	Joseph B. Allison	Adolphustown.
	4	G. A. Aylsworth	Newburgh.
	5	W. Whelan	Centreville.
	6	J. A. Timmerman	Odessa.
	7	James Aylesworth	Tamworth.
Lincoln	1	John McKimmie	Niagara.
	2	W. A. Mittleberger	St. Catharines.
	3	Charles Grassie	Smithville.
	4	C. E. Riggins	Beamsville.
Manitoulin	1	Samuel P. Jackson	Gore Bay.
	2	W. H. Becks	Little Current.
	3	W. J. Tucker	Manitowaning.
Middlesex	1	J. W. McIntosh	London.
	2	Ernest A. Dickson	Parkhill.
	3	Robert J. McNamee	Lucan.
	4	W. C. Harris	Delaware.
	5	G. Wilson	Glencoe.
	6	Ed. Rowland	Strathroy.
	7	Ed. Thos. Shaw	Dorchester Station.
	8	Walter R. Westlake	Arva.
	9	E. S. Jarvis	London.

List of Division Court Clerks, etc.—*Continued*

County.	No. of Division.	Clerk.	Post office address.
Muskoka	1	Chas. Bard	Bracebridge.
	2	Thos. M. Robinson	Gravenhurst.
	3	J. R. Reece	Huntsville.
	4	Fred D. Stubbs	Port Carling.
Nipissing	1	J. D. Cockburn	Sturgeon Falls.
	2	John McMeekin	Mattawa.
	3	M W. Flannery	North Bay.
	4	Thomas J. Ryan	Sudbury.
	5	Thomas Cahill, Jr	Lake Talon.
	6	H. Irwin	Warren,
	7	Hector McQuarrie	Hailebury.
Norfolk	1	Charles E. Freeman	Simcoe.
	2	Abraham M. Tobin	Waterford.
	3	K Green	Windham Centre.
	4	E. A. Buchner	Ronson.
	5	M. J. McColl	Vittoria.
	6	Arthur P Barrett	Port Rowan.
	7	William W. Williams	Fairground.
	8	Lawrence Skey	Port Dover.
Northumberland and Durham	1	John Moorecraft	Bowmanville.
	2	L. B. Davidson	Newcastle.
	3	G. M. Furby	Port Hope.
	4	H. M. Wood	Millbrook.
	5	John G. Orr	Cobourg.
	6	Chas. A. Noble	Grafton.
	7	S. S. Brintnell	Colborne.
	8	Ed. O. Butler	Brighton.
	9	R. P. Hurlburt	Warkwortb.
	10	W. E. Scott	Wooler.
	11	Ed. C. West	Campbellford.
Ontario	1	D. C. Macdonell	Whitby.
	2	M. Gleeson	Greenwood.
	3	J. W. Burnham	Port Perry.
	4	Jos. E. Gould	Uxbridge.
	5	Geo. Smith	Cannington.
	6	G. F. Bruce	Beaverton.
	7	Thos. P. Hart	Uptergrove.
Oxford	1	F. W. Macqueen	Woodstock.
	2	Chas. K. Currey	Drumbo.
	3	James Munroe	Embro.
	4	Jas. Barr	Norwich.
	5	James Stevens	Ingersoll.
	6	John C. Ross	Tilsonburg.
Parry Sound	1	D. Macfarlane	Parry Sound.
	2	David Paterson	McKellar P.O.
	3	Wm. Ditchburn	Rosseau.
	4	Walter Sharpe	Burk's Falls.
	5	Saml. G. Best	Maganetawan.
	6	R. B. Maw	Commanda.
	7	James Dunn	Sundridge.

List of Division Court Clerks, etc.—*Continued.*

County.	No. of Division.	Clerk.	Post office address.
Peel	1	J. W. Main	Brampton.
	2	H. H. Shaver	Cooksville.
	3	John Harris	Caledon.
	4	David Pearcy	Bolton.
Perth	1	D. B. Burritt	Stratford.
	2	George K. Matheson	Mitchell.
	3	E. Long	St. Mary's.
	4	G. Brown	Shakespeare.
	5	Thomas Trow	Milverton.
	6	Wm. Bright	Listowel.
Peterborough	1	Francis James Bell	Peterborough.
	2	Thomas Fraser	Norwood.
	3	Jas. McNeil	Keene.
	4	W. Sherin	Lakefield.
	5	Wm. Gallon	Apsley.
Prescott and Russell	1	David S. Buchan	L'Origoal.
	2	John Shields	Vankleek Hill.
	3	L. J. Labrosse	St. Eugene.
	4	D. Vian	Plantagenet.
	5	J. S Cameron	Cumberland.
	6	A. Carson	Russell.
	7	J. S. F. V. Costello	Hawkesbnry.
	8	J. Downing	Fournier.
	9	F. W. Langrell	Alfred.
	10	Moise Rochon	Clarence Creek.
	11	Peter Stewart	South Indian.
Prince Edward	1	Fred Slavin	Picton
	2	Theodore Dodge	Milford.
	3	Charles H. Wright	Demorestville.
	4	William H. C. Roblin	Ameliasburg.
	5	John W. Clarke	Wellington.
	6	A. B. Saylor	Bloomfield.
	7	Geo. H. Crane	Consecon.
	8	B. E. Harrison	Waupoos.
Rainy River	1	P. H. Clarke	Rat Portage.
	2	James Dongherty	Emo.
	3	C. S. Smith	Fort Francis.
	4	John R. Lumby	Wabigoon.
Renfrew	1	Lennox Irving	Pembroke.
	2	Hugh S. Miller	Beachburg.
	3	George Eady, Jr	Renfrew.
	4	Jno. R. Tierney	Arnprior.
	5	Thomas F. Gorman	Shamrock.
	6	James Reeves	Eganville.
	7	Robert Allan	Cobden.
	8	J. C. Gurney	Rockingham.

List of Division Court Clerks, etc —*Continued.*

County.	No. of Division.	Clerk.	Post office address.
Simcoe	1	W. C. McLean	Barrie.
	2	Thomas S. Graham	Bradford.
	3	Geo. Chrystal	Beeton.
	4	R. G. Campbell	Collingwood.
	5	A. Craig	Craighurst.
	6	J. P. Henderson	Orillia.
	7	J. A. Mather	New Lowell.
	8	J. G. Hood	Alliston.
	9	W. J. Martin	Penetanguishene.
	10	J. C. Steele	Coldwater.
Stormont, Dundas and Glengarry	1	G H. McGillivray	Williamstown.
	2	Hugh R. Macdonald	Alexandria.
	3	C. J Mattice	Cornwall.
	4	Frel. Warren	Wales.
	5	F. F Plantz	Morrisburg.
	6	A. F. Sherman	Iroquois.
	7	M. J. Cleland	South Mountain.
	8	J. A. Cockburn	Crysler.
	9	Duncan C. McRae	Bridge End.
	10	W. Rae	Chesterville.
	11	D. McIntosh	Strathmore.
	12	John D. McIntosh	Dominionville.
Thunder Bay	1	Hugh Munro	Port Arthur.
	3	J. J. Wells	Fort William.
Victoria	1	Peter McIntyre	Woodville.
	2	Edward D. Hand	Fenelon Falls.
	3	W. C. Moore	Bobcaygeon.
	4	James D. Thornton	Omemee.
	5	Elias Bowes	Lindsay.
	6	J. F. Cunnings	Oakwood.
	7	A. C. Graham	Victoria Road.
Waterloo	1	Fred. Rohleder	Berlin.
	2	James D. Webster	Preston.
	3	Thos McGivern	Galt.
	4	David Eby	New Hamburg.
	5	Alfred Boomer	Linwood.
	6	Wm. H. Winkler	St. Jacobs.
	7	W. D. Watson	Ayr.
Welland	1	Abner O. Seger	Welland Station.
	2	Paul J. Wilson	Marshville.
	3	Ernest Cruickshank	Fort Erie.
	4	Jos. G. Cadham	Niagara Falls South.
	5	D. J. C. Munro	Thorold.
	6	A. K. Schofield	Port Colborne.

List of Division Court Clerks, etc.—*Continued.*

County.	No. of Division.	Clerk.	Post office address.
Wellington	1	Thos. J. Day	Guelph.
	2	Wm. Nicoll	Morriston.
	3	Hugh Black	Rockwood.
	4	John Brownridge	Fergus.
	5	Thomas Young	Erin.
	6	Henry Clark	Elora.
	7	W. W. Farewell	Drayton.
	8	Joseph Driscoll	Arthur.
	10	John Livingston	Harriston.
	11	J. C. Wilkes	Mount Forest.
Wentworth	1	H. T. Bunbury	Hamilton.
	2	F. D. Suter	Dundas.
	3	Hugh Thompson	Waterdown.
	4	W. McDonald	Rockton
	5	J. C. Moore	Stoney Creek.
	7	J. McClement	Glanford.
	8	Samuel C. Wright	Binbrook.
	9	R. L. Gunn	Hamilton.
York	1	A. McL. Howard	Toronto.
	2	Robert J. Corson	Unionville.
	3	Thos. F. McMahon	Richmond Hill.
	4	D. Lloyd	Newmarket.
	5	Warren P. Cole	Sutton West.
	6	A. Armstrong	Lloydtown.
	7	John Nattress	Woodbridge.
	8	Jno. Hamshaw	Toronto Junction.
	9	J. H. Richardson	West Hill.
	10	E. H. Duggan	Toronto.

TABLE C.

List of Division Court Bailiffs, their Post Office Address, the County and Number of Division in which their Courts are situated, for the Province of Ontario, up to 31st December, 1900, inclusive.

County.	No. of Division.	Bailiff.	Post office address.
Algoma	1	John Cragg	Sault Ste. Marie.
	2	John Knight	Bruce Mines.
	3	J. C. McKay	Thessalon.
	4	Wm. Irving	Webbwood.
	5	Isaie Hortier	Chelmsford.
	6	Daniel McPhail	Marksville, St. Jos. Is.
Brant	1	Joseph Jackson	Brantford.
	2	Horace Huson	Paris.
	3	Edgar Patton	St. George.
	4	Daniel Dunn	Burford.
	5	A. M. Malcolm	Scotland.
Bruce	1		Walkerton.
	2	P. Corrigan	Hollywood.
		John Farquharson	Teeswater.
	3	Alex. Campbell	Kincardine.
	4	W. W. Hogg	Paisley.
	5	Willlam Mulvany	Port Elgin.
	6	Gore Leggett	Underwood.
	7	Charles A. Richards	Tara.
	8	M. C. Bell	Wiarton.
	9	John McRitchie	Ripley.
	10	Wm. Laidlaw	Lion's Head.
	11	William Little	Lucknow.
	12	R. J. Follis	Chesley.
Carleton	1	E. A. Lapierre	Ottawa.
		John Whitten	Ottawa.
	2	W. H. Hamilton	Richmond.
	3	Wm. Falls	Carp.
	4	Ed. W. Owens	Antrim.
	5	Wesley Hicks	Kars.
	6	Ed. J. Murphy	Metcalfe.
	7	A. Wilson	Hintonburgh.
Dufferin	1	James McQuarrie	Orangeville.
	2	E F. Bows	Shelburne.
	3	Arthur Love	Stanton.
	4	James McQuarrie	Orangeville.
	5	T. W. Rounding	Grand Valley.
Elgin	1	W. W. White	Aylmer.
	2	John McKenzie	St. Thomas.
	3	John McKenzie	St. Thomas.
	4	Malcolm C. Leitch	Dutton.
Essex	1	Alois Master	Sandwich.
	2	William Kelly	Amherstburg.
		C. Wright	Amherstburg.
		Ralph Piper	Pelee Island.
	3	Jas. Wigle	Kingsville.
		Ralph Piper	Pelee Islaud.
	4	Arthur T. Munger	Harrow.
	5	Jesse T. Brown	Leamington.
		Ralph Piper	Pelee Island.
	6	Alex. Monsseau	Belle River.
	7	W. A. Millard	Windsor.
		Clement Reaume	Windsor.
	8	Daniel Sinclair	Essex.
	9	Raphael Marion	Chevalier.

List of Division Court Bailiffs, etc.—*Continued*

County.	No. of Division.	Bailiff.	Post office address.
Frontenac	1	Hiram Davis	Wolfe Island.
		J. A. Gardiner	Kingston.
		Jacob J. Gardiner	Kingston.
	2	John A. Gardiner	Kingston.
	3	Edwin G. Ruttan	Sydenham.
	4	Isaac L. Smith	Verona.
	5	Wm. J. Arthur	Battersea.
	6	Joshua A. Dermatt	Tichborne.
		James Mitchell	Plevna.
		John Hayes	Arden.
Grey	1	James Cochrane	Owen Sound
	2	James Carson	Durham.
	3	George Brown	Meaford.
	4	George Mitchell	Clarksburg.
	5	John Wright, jr	Flesherton.
	6	Wm. Donlon	Chatsworth.
	7	John Small	Hanover.
	8	W. G. Pickell	Markdale.
Haldimand	1	James Thorburn	Caledonia.
	2	John Farrell	Cayuga.
	3	W. R. McIndoe	Dunnville.
	4	John H. Fite	Rainham.
	5	Eli Piper	Canboro',
	6	F. Hartwell	Jarvis.
Haliburton	1	R. C. Garrett	Minden.
	2	W. J. Austin	Haliburton.
	3	Adam Graham	Ursa.
Halton	1	J. A. Frazer	Milton.
	2	Geo. T. Hartwell	Oakville.
	3	Alfred Benham	Georgetown.
	4	John Lawson	Acton.
	5		Campbellville.
	6	J. W. Henderson	Burlington.
Hastings	1	John H. Gordon	Belleville.
		Jones Phillips	Belleville.
	3	W. E. Pearsall	Shannonville.
	4	W. J. Bowell	Tweed.
	5	C. Butler	Stirling.
		H. W. Harris	Stirling.
	6	Jacob Huff	Madoc.
	7	J. L. Ferguson	Deseronto.
	9		Trenton.
		W. D. Ketcheson	Trenton.
	10	James C. Bowen	Marmora.
	11	B. H. Sweet	Maynooth.
	12	Geo. B. Sweet	Bancroft.
Huron	1	Thos. Gundry	Goderich.
	2	Joseph P. Brine	Seaforth.
	3	D. Dickenson	Clinton.
	4	Finlay S. Scott	Brussels.
	5	John Gill	Exeter.
	6	James Mallough	Dungannon.
	7	J. Ferguson	Bayfield.
	8	Francis Patterson	Wingham.
	9	John Brethauer	Wroxeter.
	10	Phillip Sipple	Zurich.
	11	J. Beanes	Crediton.
	12	Richard Somers	Blyth.

List of Division Court Bailiffs, etc.—*Continued.*

County.	No. of Division.	Bailiff.	Post office address.
Kent	1	Charles J. Moore	Chatham.
	1	A. Wells	Chatham.
	2	W. A. Gosnell	Ridgetown.
	3	Alex. Cuthbert	Dresden.
	4	W. Fellows	Blenheim.
	4	John M. Burke	Blenheim.
	5	Thos. Forham	Wallaceburg.
	6	G. A. Bobier	Thamesville.
	6	S. J. Thomas	Bothwell.
	7	M. Dillon	Merlin.
Lambton	1	Rich. Macdonald	Sarnia.
	2	J. F. Elliott	Watford.
	3	Richard L. Robior	Florence.
	4	N. Cornwall	Sombra.
	5	Eugene Mason	Wyoming.
	6	J. G. Braddon	Thedford.
	7	John McGill	Corunna.
	8	John Sinclair	Petrolea.
	9	Wm. Irving	Alvinston.
Lanark	1	P. J. Lee	Perth.
	1	Wm. J. Wilson	Perth.
	2	James D. McInnes	Lanark.
	3	John McPherson	Carleton Place.
	4	James Murray	Smith's Falls.
	5	T. J. Bole	Pakenham.
	6	John Slattery	Almonte.
Leeds and Grenville	1	H. McPhall	Brockville.
	1	Matthew White	Brockville.
	2	Charles H. Row	Prescott.
	3	Edward McE. Hiscocks	Gananoque.
	4	Michael Sweeney	Kemptville.
	5	Wm. J. McCarney	Merrickville.
	6	W. H. Denaut, jr.	Delta.
	7	R. Richards	Frankville.
	8	Chester Stewart	Newboro'.
	8	Delorma Deacon	Westport.
	9	G. W. Brown	Athens.
	10	James P. Lawrence	Spencerville.
	11	S. J Whaley	North Augusta.
	12	W. I. Mallory	Mallorytown.
Lennox and Addington	1	Z. Ham	Napanee.
	1	W. H. Huff	Napanee.
	2	R. R. Finkle	Bath.
	3	D. Daverne	Adolphustown.
	4	Z. Ham	Napanee.
	4	Jno. Finn	Newburgh.
	5	P. Vanderwater	Centreville.
	6	John W. Denyes	Odessa.
	7	P. F. Carscallen	Tamworth.
	7	Justus Sweetman	Vennachar.
	7	P. A. Wickware	Cloyne.
Lincoln	1	Jas. Robertson	Niagara-on-the-Lake.
	2	Richard E. Boyle	St. Catharines.
	3	A. D. Lacy	Smithville.
	4	W. E. Tufford	Beamsville.

List of Division Court Bailiffs, etc —*Continued.*

County.	No. of Division.	Bailiff.	Post office address.
Manitoulin	1	S. M. Frazer	Gore Bay.
	2	Ed. M. Bradley	Little Current.
	3	Henry Vanzant	Manitowaning.
Middlesex	1	John Burns	London.
	2	Edward Manes	Parkhill.
	3	Sylvanus Gibson	Lucan.
	4	Henry Lockwood	Delaware.
	5	James Poole	Glencoe.
	6	Malcolm McIntrye	Strathroy.
	7	W. H. Shaw	Dorchester Station.
	8	Chas. E. Smith	Arva.
	9	L. W. Stevens	London.
Muskoka	1	Fred Sanders	Bracebridge.
	2	Wm. H. Johns	Gravenhurst.
	3	Wm. Rumsey	Huntsville.
	4	Francis Fowler	Port Carling.
Nipissing	1	H Kinch	Sturgeon Falls.
	2	J. B. Belanger	Mattawa.
	3	L. W. Brennan	North Bay.
	4	M. J. Powell	Sudbury.
	5	J. A. Trahan	Bonfield.
	6		Warren.
	7	W. G. Armstrong	Thornloe.
Norfolk	1	John Allgeo	Simcoe.
	2	Orlando H. Duncombe	Waterford.
	3	D. C. Wood	Simcoe.
	4	Robert Power	Delhi.
	5	Jos E. Dunkin	Vittoria.
	6	Henry C. Ellis	Port Rowan.
	7	J. W. Massacar	Clear Creek.
	8	Hiram Fairchild	Port Dover.
Northumberland and Durham	1	R. J. Mallory	Bowmanville.
	2	David Rutherford	Newcastle.
	3	H. Sing	Port Hope.
	4	Wm. Carveth	Milbrook.
	5	O. Dean	Cobourg.
	6	Chas. S. Bradley	Grafton.
	7	Jas. E. Allyea	Colborne.
	8	Jas. M. Snider	Brighton.
	9	Luke Berry	Warkworth.
	10	Arthur Terrill	Wooler.
	11	Geo. Hay	Campbellford.
Ontario	1	B. F. Campbell	Brooklin.
	2	R. W. Mowbray	Kinsale.
	3	James D. Paxton	Port Perry.
	4	J. C. Widdifield	Uxbridge.
	5	R. J. Harwood	Cannington.
	6	John H Smith	Beaverton.
	7	Joseph Fox	Millington.

List of Division Court bailiffs, etc.—*Continued.*

County.	No. of Division.	Bailiff.	Post office address.
Oxford	1	M. Virtue	Woodstock.
	1	M. Virtue, jr	Woodstock.
	2	L. S. Kennedy	Richwood.
	3	George C. McKay	Embro.
	4	C. E. Burgess	Burgessville.
	5	James Stirton	Ingersoll.
	6	M. Dillon	Tilsonburg.
Parry Sound	1	T. W. George	Parry Sound.
	1	Duncan McCrae	French River.
	2	Archie R. Jackson	McKellar.
	3	James Harvey	Rosseau.
	4	Wm. Alexander	Burk's Falls.
	5	Ed. B. Parker	Maganetawan.
	6	David Ricker	Commanda.
	7	Archibald McDonald	Sundridge.
Peel	1	John W. Smith	Brampton.
	2	Wm. Henry Rutledge	Cooksville.
	3	James K. Leslie	Caledon.
	4	Geo. McKenzie	Bolton.
Perth	1	Thomas Tobin	Stratford.
	1	Thomas S. Tobin	Stratford.
	2	J. S. Coppin	Mitchell.
	3	Wm. Box	St. Mary's.
	4	J. A. Donaldson	Shakespeare.
	5	W. D. Weir	Milverton.
	6	W. H. Hay	Listowel.
Peterborough	1	Thomas Laplante	Peterborough.
	2	James Pengelly	Norwood.
	3	Joseph Elmhirst	Keene.
	4	Thomas Nicolls	Lakefield.
	5	W. H. Webster	Apsley.
Prescott and Russell	1	S. W. Wright	L'Orignal.
	2	Thomas Shields	Vankleek Hill.
	3	Michael Kelly	St. Eugene.
	4		Plantagenet.
	5	Docitte Lavergne	Cumberland.
	6	Thomas Young	Russell.
	7	S. Wright	L'Orignal.
	8	C. Gates	Fournier.
	8	Napoleon Dupuis	St. Isidore.
	9	Oliver Miron	Alfred.
	10	John A. Dent	Rockland.
	10	Moise Lavoilette	Clarence Creek.
	11	Wm. D. Heron	South Indian.
	11	Eugene Parent	Casselman.
Prince Edward	1	D. A. Spencer	Picton.
	2	Marshall Palen	Milford.
	3	George Farrell	Demorestville.
	4	A. Harvey	Ameliasburg.
	5	F. C. Spencer	Wellington.
	6	Alex. McDonald	Bloomfield.
	7	Harman W. Weeks	Consecon.
	8	E. A. Williams	Waupoos.

List of Division Court bailiffs, etc.—*Continued.*

County.	No. of Division.	Bailiff.	Post office address.
Rainy River	1	W. H. McKay	Rat Portage.
	2	Alex. Locking	Emo.
	3	Wm. Neil	Fort. Francis.
	4	Thomas W. Thomsou	Dryden.
Renfrew	1	Henry Mitchell	
		James Millar	Pembroke.
	2	Charles Taylor	Westmeath.
		John Beaupre	Beachburg.
	3	John Devine	Renfrew.
		Wm. Wilson	Arnprior.
	4	John Lyons	Arnprior.
	5	Thomas J. Gorman	Shamrock.
	6	Hugh Gallagher	Eganville.
	7	John Burton	Cobden.
	8	Thomas L. O'Grady	Brudenell.
Simcoe	1	John Weymouth	Barrie.
	2	Fred B McKay	Bradford.
	3	John Wilson	Tottenham.
	4	A. W. S. Cunningham	Collingwood.
	5	James Martin	Hillsdale.
	6	A. R. McKay	Orillia.
	7	Andrew Patton	New Lowell.
	8	Thomas A. Whitesides	Alliston.
	9	Ed. E. J. Hewson	Penetanguishene.
	10	Thomas Blaney	Coldwater.
Stormont, Dundas and Glengarry	1	P. W. Robertson	Williamstown.
	2	Peter Bougie	Alexandria.
	3	Homer Stiles	Cornwall.
		R. J. Gravely	Cornwall.
	4	Simon Warner	Osnabruck Centre.
		G. S. Casselman	Aultsville.
	5	Jacob Hopper	Morrisburg.
	6	Wm. A. Coons	Iroquois.
	7	Andrew Redwood	South Mountain.
	8	Samuel Dillobough	Crysler.
	9	Daniel McLeod	Lancaster.
	10	A. Stallmayer	Chesterville.
		Milo Knowland	Chesterville.
	11	Ed. J. Molony	McMillan's Corners.
	12	Chas. P. Robertson	Maxville.
Thunder Bay	1	Thomas Connor	Port Arthur.
	2	Thomas Connor	Port Arthur.
Victoria	1	John C. Gilchrist	Woodville.
	2	Ed C. Edwards	Fenelon Falls.
	3	W. R. Given	Bobcaygeon.
	4	Wm. Glass	Omemee.
	5	Peter Mitchell	Lindsay.
	6	Abel Minthorn	Oakwood.
	7	Wm. Boden	Victoria Road.
Waterloo	1	J. Klippert	Berlin.
	2	Peter Gillies	Galt.
	3	Peter Gillies	Galt.
	4	Alex. Fraser	New Hamburg.
	5	Benj. J. Ballard	Hawkesville.
	6	Benj. J. Ballard	Hawkesville.
	7	Ed. Bourchier	Washington.

LIST of Division Court bailiffs, etc.—*Concluded.*

County.	No. of Division.	Bailiff.	Post office address.
Welland	1	Casper Ramey	Welland.
	2	Chas. W. Duff	Marshville.
	3	Irwin E. Teal	Ridgeway.
	4	George E. Buckley	Niagara Falls, South
	5	P. R. Warner	Thorold.
	6	Elias Augustine	Humberstone.
Wellington	1	John H. Doughty	Guelph.
	2	J. H. Doughty	Guelph.
	3	John W. Farries	Rockwood.
	4	Wm. M. Frank	Fergus.
	5	James Broddy	Erin.
	6	Wm. Findlay	Elora.
	7	S. B. Trask	Drayton.
	8	David T. Small	Arthur.
	10	Henry Torrance	Clifford.
	11	A. Godfrey	Mount Forest.
Wentworth	1	John Hunt.	Hamilton.
	2	E. P. Hanes	Dundas.
	3	W. Harvey	Waterdown
	4	Emerson Clement	Troy.
	5	H. A. Coombs	Stoney Creek.
	7	A. de C. Boyes	Binbrook.
	8	A. de C. Boyes	Binbrook.
	9	J. Greenfield	Hamilton.
York	1	Chas. E. Wingfield	Toronto.
	2	P. L. Barkey	Ringwood.
	3	P. L. Barkey	Ringwood.
	4	Wm Malloy	Newmarket.
		A. E. Widdifield	Newmarket.
		Amos H. Wilson	Newmarket.
	5	R. A. Sheppard	Sutton, West.
	6	Jas. Playter	Aurora.
	7	G. Burton	Woodbridge.
	8	J. K. McEwen	Weston.
	9	Jno Annis	Scarboro'.
	10	Peter Small	Toronto.

TABLE D.

DIVISION COURTS AND THE LIMITS OF THE RESPECTIVE DIVISIONS IN THE PROVINCE OF ONTARIO.

NAMES OF COUNTY AND DISTRICT JUDICIAL OFFICERS.

ALGOMA. { J. W. Johnston, Judge, Sault Ste. Marie,
Edward O'Connor, Jr. Judge, "
J. J. Kehoe, County Crown Atty. and Clk.P., Sault Ste. Marie.

1.—Bounded west by Thunder Bay District, 85th parallel of west longitude, and east by Barr River, including all the islands in front.

2.—Bounded west by Barr River, and east by the westerly boundary of the Townships of Thessalon River, Kirkwood, Bridgeland and Houghton, and by said boundary line of the last three named townships produced northerly.

3.—Bounded west by the westerly boundary of the Townships of Thessalon River, Kirkwood, Bridgeland and Houghton, and the boundary line of the last named three townships, produced northerly, and on the east by the eastern boundary of the Township of Sprague, produced northerly.

4.—Bounded on the west by the boundary line between the Townships of Sprague and Lewis, produced north to the northern boundary of the District of Algoma, thence along the northern boundary of the said district, thence south along the eastern boundary to the waters of Lake Huron, thence westerly along the southern boundary of the District of Algoma, to a point opposite the boundary line between the Townships of Sprague and Long, thence northerly to said last-mentioned boundary line, thence easterly along the said southern boundary line of the Township of Sprague to the place of beginning, except the territory comprised in the limits of Division No. 5.

5.—The Townships of Rayside, Balfour, Snyder, Creighton, Fairbank, Dowling, Lanark, Morgan, Lumsden, Carscaden, Cartier, Ermatinger, Hart, Hess, Moncreif and Craig, and all those portions of Algoma lying adjacent to the main line of the Canadian Pacific Railway, south of said railway and west of the westerly boundary of the Township of Moncreif to the westerly boundary of the Provisional Judicial District of Algoma, and all that portion of the said District lying north of the said C. P. R. and west of the said westerly boundary of the said Township of Moncreif. And that such portion of the said territory above described as has been and is a portion of the other Division Court divisions in said district shall be separated from such several divisions; and that the said divisions are altered accordingly.

6.—Consisting of St. Joseph's Island.

BRANT. { A. D. Hardy, Judge, Brantford.
A. J. Wilkes, C.C.A. & C. P. "

1.—The City of Brantford and that part of the Township of Brantford not included in the other divisions hereinafter described. The Townships of Onondaga and Tuscarora, and that part of the Township of Brantford lying south of the main road from Brantford to Hamilton and east of Fairchild's Creek.

2.—The Town of Paris and the part of South Dumfries west of the line between lots 18 and 19, and that part of the first concession of the Township of Brantford lying west of a continuation of the last-mentioned line.

3—The remainder of the Township of South Dumfries and of the first concession of the Towship of Brantford.

4.—The ten northern concessions of the Township of Burford, and all that part of the 2nd, 3rd, 4th and 5th concessions of the Township of Brantford, west of the line between lots numbers 10 and 11,and that portion of the Kerr tract west of a continuation of the last mentioned line.

5.—The Township of Oakland, the four southern concessions of the Township of Burford and lots numbers 1 to 5, inclusive, in the ranges east and west of the Mount Pleasant Road, in the Township of Brantford, adjoining the Township of Oakland.

BRUCE. { Wm. Barrett, Judge, Walkerton.
A. B. Klien, J.J., "
Thomas Dixon, C.C.A. & C.P, Walkerton.

1.—The Town of Walkerton and the Township of Carrick, and the Township of Brant, south of the 12th concession, in lots up to No. 26, and south of the 10th concession in lots 26 to 34, inclusive.

2.—The Village of Teeswater, the Townships of Culross, and Greenock south of the 12th concession.

3.—The Town of Kincardine, the Township of Kincardine, lying south of 10th concession.

4.—The Village of Paisley and that part of the Township of Brant lying north of 11th concession and west of lot 26. That part of Grenock lying north of concession 11; lots 26 to 35, inclusive, in the 8th, 9th, 10th, 11th, 12th, 13th and 14th concessions of the Township of Bruce; and Saugeen, east of a line between lots 28 and 29, and south of the production of the town line between Aaron and Elderslie to the Saugeen River. All Elderslie lying west of the 25th side line and south of the 12th concession. And also that part lying north of concession 11 and west of lot 17.

5.—All of the Township of Amabel lying north of the 10th concession, Port Elgin and Southampton, and all Saugeen not in No. 4, and Arran, west of the line between lots 10 and 11, north of Arran Lake and its outlet, and Amabel, south of concession 11, and west of concession C, and concessions 8, 9 and 10.

6.—The Village of Tiverton, and all the Township of Bruce, except that part included in No. 4, and all Kincardine north of the 9th concession.

7.—Tara and all Arran, not in No. 5, and all Elderslie, not in Nos. 4 and 12, and Amabel south of the 8th concession and east of concession lettered C.

8.—The Town of Wiarton, the Township of Albemarle and that part of Amabel not in Nos. 5 and 7.

9.—The Township of Huron.

10.—The Townships of Eastnor, Lindsay and St. Edmunds.

11.—Lucknow and the Township of Kinloss.

12.—Chesley, and those parts of Brant and Elderslie not included in Nos. 1, 4 and 7.

CARLETON. { D. B. McTavish, Judge, Ottawa.
Wm. Mosgrove, J.J., "
J. A. Ritchie, C.O.A & C.P., Ottawa.

1.—Comprising all the City of Ottawa, and the Township of Gloucester, to lot 15, inclusive, Rideau front and concessions 1 to 6, inclusive, Ottawa front and the islands in the Ottawa River opposite thereto.

2.—The Township of Gouldbourn ; the 8th, 9th and 10th concessions of the Township of Marlborough ; all of the Township of Nepean south of the River Goodwood ; and the 4th, 5th and 6th concessions thereof north of the same river to the boundary line between lots 20 and 21 in the last mentioned concessions.

3.—The Township of Huntley, and the Township of March, except lots 1 to 5 inclusive, in concessions 1, 2, 3 and 4 thereof.

4.—The Townships of Fitzroy and Torbolton.

5.—The Township of North Gower ; Long Island in the Rideau River and 1st, 2nd 3rd, 4th, 5th, 6th and 7th concessions of Marlborough.

6.—The Township of Osgoode ; the 6th, 7th and 8th concessions Ottawa front and from lots 16 to 30 inclusive, of the Rideau front of the Township of Gloucester.

7.—The Township of Nepean, except the City of Ottawa, and part of the said Township lying south of the River Goodwood and concessions 4, 5 and 6 north of the River Goodwood to the boundary line between lots 20 and 21 in the said last mentioned concessions, and including also lots 1 to 5, inclusive, in concessions 1, 2, 3 and 4 in the Township of March.

DUFFERIN. { M. McCarthy, Judge, Orangeville.
W. J. L. McKay, C.C.A. & C.P, Orangeville.

1.—The Town of Orangeville, the Township of East Garafraxa, and all that portion of the Township of Amaranth lying south of the southern boundary of lot number 26, in each concession of the Township of Amaranth.

2.—The Village of Shelburne, the Township of Melancthon, and all that portion of the Township of Amaranth lying north of the southerly boundry of lot number 26, in each concession of the Township of Amaranth.

3.—The Township of Mulmur.

4.—The Township of Mono.

5.—The Township of East Luther.

ELGIN { D. J. Hughes, Judge, St. Thomas.
C. O. Z Ermatinger, J. J., St. Thomas.
D. J. Donahue, C. C. A. & C. P., St. Thomas.

1.—The Township of Bayham, Malahide and South Dorchester.

2.—The Townships of Southwold and Yarmouth (except the City of St. Thomas).

3.—The City of St. Thomas.

4.—The Townships of Aldborough and Dunwich.

ESSEX { C. R. Horne, Judge, Sandwich.
M. A. McHugh, J. J., Sandwich.
A. H. Clarke, C.C.A. & C.P., Sandwich.

1.—Town of Sandwich and Township of Sandwich West.

2.—Town of Amherstburg and Townships of Alden and Anderdon.

3.—The Village of Kingsville, and all that part of the Township of Gosfield not included in Division No. 8.

4.—The Township of Colchester South, and all of Colchester North, south of the 9th concession, exclusive of the said concession and the lots on both sides of Malden street.

5.—Township of Mersea and Village of Leamington.

6.—The Township of Rochester, the Village of Belle River, the first concession of the Township of Maidstone, and all north of the Middle Road in said Township of Maidstone.

7.—Town of Windsor, the Town of Walkerville and all of Sandwich East, north of the Talbot Street range.

8.—The Town of Essex, all of the Township of Maidstone lying west of the first concession and south of the Middle Road ; so much of Sandwich East as is south of Talbot street, including the lots on both sides of said street to Nos. 306 and 307 ; all of Colchester north of the 9th concession, including said concession and lots on both sides of Malden street, and all that part of Gosfield lying north of concession 6, and extending as far east from the limits between Gosfield and Colchester as lot No. 12, including such lot in each concession north of concession 6, inclusive.

9.—The Townships of Tilbury West and Tilbury North.

[Note.—A resident bailiff appointed on Pelee Island, is authorized to serve and execute process of the Second, Third and Fifth Division Courts of Essex on the Island.]

FRONTENAC { C. V. Price, Judge, Kingston.
J. L. Whiting, C.C.A. & C.P., Kingston.

1.—City of Kingston, Township of Garden Island, Wolfe Island, Howe Island, and part of the Township of Pittsburg.

2.—Cataraqui, comprising the Township of Kingston and the Village of Portsmouth.

3.—Loughboro', comprising the Townships of Loughboro' and Bedford.

4.—Verona, comprising the Townships of Portland and Hinchinbrooke.

5.—Sudbury, comprising the Township of Storrington and part of the Township of Pittsburg.

6.—Comprising the Townships of Kennebec, Olden, Oso, Barrie, Clarendon, Palmerston, Miller, North Canonto and South Canonto.

GREY { John Creasor, Judge, Owen Sound.
Duncan Morrison, J.J., Owen Sound.
A. G. McKay, C.C.A. & C.P., Owen Sound.

1.—The Town of Owen Sound, the Village of Brook, and the Townships of Derby, Keppel, Sarawak and Sydenham.

2.—The Town of Durham, the Township of Egremont, and those portions of the Townships of Bentinck, Normanby and Glenelg as follows:—That part of the Township of Bentinck lying east of the line between lots 30 and 31 in the 1st, 2nd and 3rd concessions south of the Durham Road, and in concessions 1, 2 and 3 north of the Durham Road, and east of the line between lots 15 and 16 in concessions 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14 and 15 thereof. That part of the Township of Normanby lying east of the line between lots 20 and 21, in the 4th, 5th, 6th, 7th, 8th, 9th, 10th, 11th, 12th, 13th, 14th, 15th, 16th, 17th and 18th concessions, and all of the Township of Glenelg, excepting that portion lying east of the line between lots 10 and 11 in the 7th, 8th, 9th, 10th, 11th 12th, 13th, 14th and 15th concessions thereof.

3.—The Town of Meaford, the Township of St. Vincent, and that part of the Township of Euphrasia lying west of the line between the 6th and 7th concessions and north of the line between lots 15 and 16.

4.—The Township of Collingwood and the east half of the Township of Euphrasia, excepting that part thereof lying west of the line between the 4th and 5th concessions, and south of the lots between lots 12 and 13, and east half of the Township of Osprey.

5.—The Township of Proton, the west half of the Township of Osprey, and those parts of the Township of Artemesia, consisting of the ranges of lots lying parallel to the Toronto and Sydenham Road, and south of the line between lots 130 and 131, and concessions 1, 2 and 3 south of the Durham Road, and 1, 2, 3, 4, 5 and 6 north of the said Durham Road, and those portions of concessions 7, 8 and 9 lying east of the ranges of lots parallel with the Toronto and Sydenham Road, and those portions of concessions 10, 11, 12, 13 and 14 lying east of the line between lots 30 and 31.

6.—The Township of Sullivan, and the Township of Holland, excepting those portions of concessions 9, 10, 11 and 12 lying south of the line between lots 15 and 16, and those portions of concessions 7 and 8 west of the ranges of lots lying parallel with the Toronto and Sydemham Road, and the ranges of lots lying parallel with the Toronto and Sydenham Road ; and south of the line between lots 50 and 51.

7.—All the lots from 1 to 30, inclusive, in the three concessions south, and the three concessions north of the Durham Road, in the said Township of Bentinck ; and all the lots from 1 to 15 inclusive, in the 12th concession, from the 4th to the 15th concessions inclusive, of the said Township of Bentinck ; and all the lots from 1 to 20 inclusive, in all the concessions from 4 to 18 inclusive, in the Township of Normanby aforesaid.

8 —All the lots from 51 to 130 inclusive, in all the concessions from parallel to (and being north-east and south-west) of the Toronto and Sydenham Road, in the Townships of Artemesia, Glenelg, and Holland aforesaid ; all lots to the westward of the dividing line between lots 30 and 31, in all the concessions from 10 to 14 inclusive, and all the lots from 1 to 5 in the 7th, 8th and 9th concessions, inclusive, which lie to the south-west of the 3rd concession, south-west of the said Toronto and Sydenham Road, in the said Township of Artemesia ; all the lots from 1 to 12 inclusive, in concessions 5 and 6, and all the lots from 1 to 15 inclusive, in the concessions from 7 to 12, inclusive, in the Township of Euphrasia ; all lots south of the allowance for road between lots 15 and 16 in the 9th, 10th, 11th and 12th concessions, and from lots 25 and 30 inclusive, in the 7th concession, and lots 28, 29 and 30, in the 8th concession of the said Township of Holland ; and all the lots lying east of the allowance for road between lots 10 and 11, in all the concessions from 7 to 15, inclusive, in the said Township of Glenelg.

HALDIMAND { D. McMillan, Judge, Cayuga.
C. W. Colter, C. C. A. & C. P., Cayuga.

1.—The Township of Seneca, except the first and second concessions, the Young tract, and the property of the late Richard Martin, and the late Robert Weir; all the Township of Oneida, except the first range north of the Gayuga line; the Dennis tract and the lots southerly of said tract.

2.—The Township of North Cayuga, except that portion thereof lying north-east of side line between lots 12 and 13; the first and second concessions of the Township of Seneca, except that portion thereof lying north-east of the side line between lots 12 and 18; the Young tract and the lands of the late Robert Weir and the late Richard Martin, Esquires; the first range of Oneida and north of Cayuga line; also the Dennis tract and River lots lying south.

3.—The Townships of Moulton, Sherbrooke and Dunn, including the Village of Dunnville.

4.—The Townships of South Cayuga and Rainham.

5.—The Township of Canboro', and those portions of North Cayuga and Seneca not included in the other divisions.

6.—The Township of Walpole.

COUNTY OF HALIBURTON.

(Annexed to Victoria for Judicial purposes)

W. W. Dean, Judge, Lindsay.
J. E. Harding, J. J.

1.—The Townships of Glamorgan and Snowden, except that portion of both included in the third division, and all of the Townships of Snowden, Lutterworth, Minden, Anson, Stanhope, Hindon, Sherbourne and McClintock.

2.—The Township of Dysart, Guilford, Havelock, Livingston, Lawrence, Eyre, Harburn, Dudley, Harcourt, Bruton, Clyde and Nightingale and that portion of Monmouth, not included in the third Division.

3.—The Township of Cardiff the Township of Monmouth (except lots 1 to 19 inclusive) in the 13th, 14th, 15th, 16th and 17th concessions; the south 12 concessions of the Township of Glamorgan, and from lot 21 inclusive, to the eastern boundary in the south six concessions of Snowden.

HALTON { J. M. Hamilton, Judge, Milton.
T. G. Matheson, C. C. A. & C. P., Milton.

1.—All the territory comprised in the new survey of the Township of Trafalgar, and the first ten lots in concessions 1, 2, 3, 4, 5, and 6 in the Township of Esquesing, and the first five lots in concessions 7, 8, 9, 10 and 11 in said township.

2.—That part of the Township of Trafalgar known as the Old Survey.

3.—All the rest of the Territory comprised in concessions 8, 9, 10 and 11 in the Township of Esquesing not comprised in the first division.

4.—All the rest of the territory comprised in concessions 1, 2, 3, 4, and 6, in the Township of Esquesing.

5.—The Township of Nassagaweya.

6.—The Township of Nelson.

HASTINGS { T. A. Lazier, Judge, Belleville.
E. B. Fralick, J. J., "
P. J. M. Anderson, C. C. A. & C. P., Belleville.

1.—To comprise the City of Belleville and the Township of Thurlow; also all that portion of the Township of Sidney lying south of the 8th concession, and east of the line between lots 18 and 19.

2.—(Order made discontinuing this court, from 1st of March, 1897. The territory to be divided amongst 1st, 5th and 9th courts as given under these respective divisions.)

3.—The Township of Tyendinaga, except that part called Deseronto.

4.—The Township of Hungerford.

5.—All that part of the Township of Sidney which lies to the north of the 8th concession, and to the east of lot No. 6 in each concession north of the 8th concession, and all that part of the Township of Rawdon which lies to the south of the 9th concession, and that part of the Township of Huntingdon south of the 5th concession; also Block A and lots 1, 2, 3, 4, 5 and 6 in the 8th and 9th concessions of the Township of Sidney (heretofore forming part of the 2nd division), together with all that portion of the Township of Sidney lying north of the 7th concession, and east of the line between lots 6 and 7.

6.—The Townships of Madoc, Tudor, Limerick, excepting that part lying north of the 10th concession, and also that part lying west of lot 25 in the different concessions south of the 11th concession of said township, and including all that part of the Township of Huntingdon north of the 6th concession of said township, the Townships of Elzevir, Grimsthorpe, Cashel, excepting that part of Cashel lying north of the 10th concession of the said Township.

7.—The Village of Deseronto.

9.—The Town of Trenton, and all that part of the Township of Sidney which lies to the west of lot 7 in each of the concessions of the township, including Mill Island. Also, all of said Township of Sidney lying south of the 8th concession and west of the line between 18 and 19, and east of the line between lots 6 and 7.

10.—The Townships of Marmora, Lake, and all that part of the Township of Rawdon which lies to the north of the 8th concession.

11.—The Townships of Herschell, Monteagle, Carlow, Bangor, Wicklow and McClure

12.—The Townships of Wollaston, Faraday, Dungannon, Mayo, and all that part of the Township of Cashel lying north of the 10th concession of said township, and all those parts of the Township of Limerick lying north of the 10th concession, and west of lot No. 25 in the several concessions of the said Township of Limerick.

HURON { Jas. Masson, Judge, Goderich.
B L Doyle, J. J,, Goderich.
Ira Lewis, C. C. A. & C. P. Goderich.

1.—Comprising the Town of Goderich ; that part of the Township of Goderich to the north of the Cut Line and the Huron road until the same meets the road allowance between the 13th and 14th concessions : then back along the Huron Road to its junction with the Cut Line ; then west by the road allowance between concessions 11 and 12 to the River Maitland ; then along the River Maitland to Goderich, together with the Township of Colborne.

2 —Comprising the Township of McKillop, the Town of Seaforth, and all that portion of the Township of Tuckersmith not included in the third division.

3.—Comprising all that portion of the Township of Hullett south of the blind line between the 7th and 8th concessions of the Township of Hullett ; that part of the Township of Goderich not included in Nos. 1 and 7 ; 1st, 2nd, 3rd and 4th concessions Township of Stanley ; 1st and 2nd concessions Township of Tuckersmith, L R.S , north of Lot 15, and that portion west of side road between lots 25 and 26, H.R.S., and Town of Clinton.

4.—Comprising the Township of Grey ; all of the Township of Morris east of side road between lots numbers 10 and 11 (which is not included in No. 12), and the Village of Brussels.

5 —Comprising the Townships of Usborne and the Village of Exeter.

6.—Comprising the Townships of Ashfield and all West Wawanosh, except that portion east of Maitland River.

7.—Comprising the Township of Goderich south of Cut Line and Huron Road until the same joins the road between the 12th and 14th concession of the Township of Goderich ; thence along the said concessions until the same joins the River Bayfield ; all Stanley not included in number 3 ; and the Village of Bayfield.

8 —Comprising the Village of Wingham, the Township of Turnbury ; all that part of East Wawanosh not included in number 12, and all the Township of Morris not included in Nos. 4 and 12.

9.—Comprising the Township of Howick and the Village of Wroxeter.

10 —Comprising the Township of Hay.

11.—Comprising the Township of Stephen.

12.—Commencing at the north east angle of the Township of Hullett, thence southerly along the easterly boundary of the said Township of Hullett to the blind line, between the 7th and 8th concessions of said township ; thence westerly along said line to the western boundary of the township ; thence northerly along the westerly boundary of the township to the Maitland River at the south eastern corner of the Maitland Block ; thence along the said river northerly till the western boundary of East Wawanosh is reached ; thence northerly along said westerly boundary to the road running between the 6th and 7th concessions of said Township of East Wawanosh ; thence easterly along said road to the easterly limit of said township ; thence northerly along the gravel road to the road running between the 5th and 6th concessions of the Township of Morris ; thence easterly along said road to the line between lots 10 and 11 ; thence southerly along said line between the 6th and 7th concessions ; thence easterly along said line to the line between lots 15 and 16 ; thence southerly to the boundary line between the Townships of Morris and Hullett ; thence easterly to the place of beginning, including the Village of Blyth.

KENT { Arch'd. Bell, Judge, Chatham.
R S. Woods, J. J., Chatham.
W. Douglas, C. C. A. & C. P., Chatham.

1.—The First Division to consist of the Town of Chatham and that part of the Townships of Dover East and West to the south of the 12th and 13th concession line of the Township of Dover East; and that part of the Township of Chatham south of the 12th and 13th concession line, and west of the side road between lots 12 and 13, from the first mentioned 12th and 13th concession line to the 5th and 6th concession line, and all south of the said 5th and 6th concession line of said township; that part of the Township of Harwich north of 5th and 6th concession line, by the easterly boundary; that part of the Township of Raleigh north of the 16th concession to the west side road between lots 12 and 13 north to the 6th and 7th concession line, and all of the said township north of the said last mentioned line, and that part of the Township of Tilbury East north of the 4th concession.

2.—The Second Division to consist of that part of Township of Howard south of the 2nd and 3rd concession line by the eastern boundary (known as the Botany Road), and that part of the Township of Orford south of the 10th and 11th concession line of said township

3.—The third division to consist of all that part of the Gore of Camden lying west of the 10th and 11th concession line, and that part of the Township of Camden lying west of the side line between lots 6 and 1; the Village of Dresden; and that part of the Township of Chatham north of the 5th and 6th concession line and east of the side road between lots 12 and 13.

4.—The Fourth Division to consist of that part of the Township of Harwich south of the 5th concession of the eastern boundary, and south of the third concession by the western boundary, and that part of Raleigh south of the 15th conncession and east of the side road between lots 12 and 13, and the road to the lake shore through lot 146 on the Talbot road.

5.—The Fifth Division to consist of the Village of Wallaceburg, the Gore of Chatham, and that part of the Township of Chatham northwest of the 12th and 13th concession line and west of the said road between lots 12 and 13, and that part of Dover East lying north of the 12th and 13th concession side road.

6.—The Sixth Division to consist of that part of the Township of Howard north of the Botany road aforesaid, and of that part of the Township of Oxford north of the 10th and 11th concession line, the Township of Rone, the Town of Bothwell, the Village of Thamesville, and that part of the Gore of Camden east of the 10th and 11th concession line, and that part of the Township of Camden east of the side line between lots 6 and 7.

7.—The Seventh Division to consist of that part of Tilbury East south of the 3rd concession, the Township of Romany, and that part of the Township of Raleigh, south of the 6th and 7th concession line and west of the side road between lots 12 and 13 in the said township, and the road through lot 147 on Talbot road.

LAMBTON { D. F. McWatt, Judge, Sarnia.
John A. McKenzie, J. J., Sarnia.
J. F. Bucke, C. C. A. & C. P., Sarnia,

1.—The external boundaries of the Township of Sarnia and the Town of Sarnia.

2.—The external boundaries of the Township of Warwick, including that portion of the Village of Arkona south of the township line.

3.—The external boundaries of the Townships of Euphemia and Dawn.

4.—The external boundaries of the Township of Sombra.

5.—The external boundaries of the Township of Plympton.

6.—The external boundaries of the Township of Bosanquet, including that portion of the Village of Arkona north of the township line.

7 —The external boundaries of the Township of Moore.

8.—The external boundaries of the Township of Enniskillen.

9.—The external boundaries of the Township of Brock.

LANARK { W. S. Senkler, Judge, Perth.
E. G. Malloch, C.C.A. & C.P., Perth.

1.—The townships of Drummond, Bathurst, South Sherbrooke, Burgess North and that part of the Township of Elmsley North, north of the Rideau River, within the County of Lanark and west of lot No. 12 in each concession.

2.—The Townships of Lanark, Dalhousie, Darling, Lavant and North Sherbrooke

3.—The Township of Beckwith, and the first six lots in the first seven concessions of the Township of Ramsay.

4.—The Township of Montague, and that part of the Township of North Elmsley from lot No. 1 to lot No. 12 in each concession, both inclusive.

5.—The Township of Pakenham.

6 —The Township of Ramsay, with the exception of the first six lots on the first seven concessions of the said township.

LEEDS AND GRENVILLE { H. S. McDonald, Judge, Brockville.
M. M. Brown, C.C.A & C.P., Brockville.

1.—To consist of the 1st, 2nd, 3rd, 4th, 5th, 6th and 7th concessions and broken front of the Township of Elizabethtown, and the concession roads between them.

2. To consist of the 1st, 2nd, 3rd, 4th and 5th concessions, and broken front and that part of the 6th, 7th and 8th concessions from the town line of Edwardsburgh, to lot No. 18, inclusive of the Township of Augusta, and the concession roads between them.

3.—To consist of the 1st, 2nd, 3rd, 4th and 5th concessions and broken front of the Townships of Leeds and Lansdowne, respectively, and the concession roads between them.

4.—To consist of the Township of South Gower, the Township of Oxford from the west side line of lots number 11 in all the concessions of the eastern boundary of the township, and the gore of land between South Gower, Oxford and Edwardsburgh.

5.—To consist of the Township of Wolford (except the 7th and 8th concessions and the allowance of roads within and between them), lots No. 1 to 10 inclusive in the 1st, 2nd, 3rd, 4th, 5th, 6th, 7th and 8th concessions of the Township of Oxford, and the allowance of roads within and between them.

6.—To consist of the Townships of Bastard and Burgess, and those parts of the Townships of Leeds and Lansdowne, on the north side of the rear of the 5th concession in each, respectively.

7.—To consist of the Townships of Kitley and Elmsley.

8.—To consist of the Townships of North Crosby and South Crosby.

9.—To consist of that part of the Townships of Escott and Yonge, in rear of the 4th concession of Yonge, and in the rear of the 6th concession of Escott; that part of the Township of Elizabethtown, in rear of the 7th concession, and west of lot number 18 in the 8th, 9th, 10th and 11th concessions, and the allowances for roads embraced therein.

10.—To consist of the Township of Edwardsburg.

11.—To consist of that part of the Township of Augusta, in rear of the 5th concession and west of lot number 18, in the 6th, 7th and 8th concessions; the whole of the 9th and 10th concessions of the Township of Augusta; the Gore between the Townships of Oxford, Wolford and Augusta; that part of the Township of Elizabethtown in rear of the 7th concession, and east of the commons, between lots number 18 and 19 in the 8th, 9th, and 10th concession; the 7th and 8th concessions of the Township of Wolford; lots numbers 1 to 10, inclusive, in the 9th and 10th concessions of the Township of Oxford; and the allowance for roads embraced therein.

12.—To consist of the 1st, 2nd, 3rd and 4th concessions and broken front of the Township of Yonge; the 1st, 2nd, 3rd, 4th, 5th and 6th concessions and broken front of the Township of Escott, and the allowance for roads embraced therein.

The said 1st, 2nd, 3rd and 12th Divisions shall respectively embrace and comprehend within their limits those portions of the River St. Lawrence, and Islands therein, within the exterior lines of which such portions of said river and islands would lie and be, if such exterior side lines were produced and extended in that direction to the utmost limits of the Province.

LENNOX & ADDINGTON { W. H. Wilkinson, Judge, Napanee.
H.M. Deroche. O.C.A. & C.P. Napanee.

1.—The Town of Napanee; Township of Richmond; all that part of North Fredericksburgh and Adolphustown lying north of Hay Bay; and all that part of North Fredericksburgh lying north of Big Creek.

2.—Comprises 1st concession of Ernestown, the Village of Bath, the Township of Amherst Island, and the 2nd, 3rd and 4th concessions of the said Township of Ernestown, from the west limits thereof to the west limit of lot No. 21 in each concession.

3.—Township of South Fredericksburg and all that part of North Fredericksburg and Adolphustown, not included in Division No. 1.

4.—1st, 2nd and 3rd concessions of the Township of Camden and the Village of Newburg.

5.—All that part of the Township of Camden not included in Division No. 4.

6.—All that portion of the Township of Ernestown not included in the limits of Division No. 2.

7.—Townships of Sheffield, Kalada, Anglesea, Abinger, Effingham, Ashby and Denbigh.

LINCOLN, { R. B Carman, Judge, St. Catharines.
M. Brennan, C.C.A. & C.P., St. Catharines.

1.—The Town and Township of Niagara.

2 —The Township of Grantham (including the City of St. Catharines, the Villages of Merriton and Port Dalhousie), and the Township of Louth.

3 —The Townships of Caistor and Gainsborough, and the 9th concession of the Township of Grimsby, including the 1st and 2nd ranges as part of the said concession.

4.—The Villages of Grimsby and Beamsville ; the Township of Clinton and the Township of Grimsby, except the 9th concession and 1st and 2nd included as part of the said 9th concession.

DISTRICT OF MANITOULIN { A. B. McCallum, Judge, Gore Bay.
J. F. J. Cashman, C. C. A. & C. P , Gore Bay.

1.—The Town of Gore Bay, the Townships of Gordon, Allan, Campbell, Mills, Burpee, Robinson, Dawson, the islands known as Cockburn, Barrie, Clapperton and the Duck Islands and that part of the Township of Billings lying west of the road allowance between lots fifteen and sixteen in the several concessions thereof and so much of the Townships of Carnarvon as lies west of Lake Mindemoya and north of the line between the sixth and seventh concessions thereof.

2.—The Town of Little Current, the Township of Howland and those parts of the Townships of Sheguindah and Bidwell, lying north of the line between the sixth and seventh concessions of Sheguindah, and fourth and fifth concessions of the Township of Bidwell, and the sixth and seventh concessions of the line between lots seventeen and eighteen in the Township of Billings, and the adjacent islands lying north and east of the said Townships, except the Clapperton Island.

3.—Manitowaning, the Township of Assiginack, Tehkummah and Sandfield and those parts of the Township of Sheguindah lying south of the line between the sixth and seventh concessions of Sheguindah, and fourth and fifth concessions of the Township of Bidwell, and the sixth and seventh concessions of the Township of Billings to the line between lots seventeen and eighteen of said Township, and the Township of Carnarvon except so much of the same as lies west of Mindemoya Lake, and all that part of Manitoulin lying east of the Township of Assiginack, Manitowaning and South Bays and the islands adjacent thereto.

MIDDLESEX. { Wm. Elliott, Judge, London.
Edward Elliott, J.J., London.
Jas. Magee, C.C.A. and C.P. London.

1.—That part of the City of London lying to the west of Maitland street, with that portion of the Township of London lying south of the line between the 4th and 5th concessions and west of the said street, produced northerly or a line in the same direction to the line between the said 4th and 5th concessions, and with that portion of the Township of Westminster lying west of the main road leading south from Clarke's Bridge across the Thames; south to the line between the 1st and 2nd concessions; and westerly to the line between lots 42 and 43, and extending northerly to the River Thames; and also including the Village of London West.

2.—The Villages of Parkhill and Ailsa Craig, the Townships of East Williams and West Williams, and that portion of the Township of Lobo lying north of the line between the 11th and 12th concessions; and east of the line between lots numbers 12 and 13.

3.—The Townships of McGillivray and Biddulph and the Village of Lucan.

4.—The Township of Delaware, with that portion of the Township of Westminster west of the line between lots 30 and 31 in the second concession; then southerly on the line between lots 20 and 21, to the southerly limit of the township, including all west of said line, and also including all that portion of the front of said Township of Westminster, lying west of the line between lots numbers 42 and 43, not included in the first division; with that portion of the Township of Caradoc lying south of the line between the 5th and 6th concessions to the River Thames; and with that portion of the Township of Lobo, lying south of the line, between the 6th and 7th concessions, to the River Thames.

5.—The Township of Exfrid and Mosa, including the Villages of Wardsville, Newbury and Glencoe.

6.—Townships of Adelaide and Metcalfe; the Town of Strathroy, with that portion of the Township of Caradoc lying north of the line between the 3rd and 4th concessions; with that portion of the Township of Lobo which lies north of the 6th concession and west of the line between lots 12 and 13 of the said township.

7. The Township of North Dorchester, north and south of the River Thames; that portion of the Township of West Nissouri which lies south of the line between lots 14 and 15; and with that portion of the Township of Westminster lying south of the line between the 1st and 2nd concessions, and east of the line between lots 30 and 31 in the second concession, and thence east of the line between lots 27 and 21, continued south to the southerly limit of the said Township of Westminster.

8.—All that portion of the Township of London which lies north of the line between the 4th and 5th concessions; that portion of the Township of Lobo which lies north of the line between the 6th and 7th concessions, and east of the line between lots 12 and 13 to the line between the 11th and 12th concessions, and with all that portion of the Township of West Nissouri which lies north of the line between lots numbers 14 and 15.

9.—All that part of the City of London lying east of Maitland street; that part of the Township of London lying south of the line between the 4th and 5th concessions and east of the said street, produced northerly or in a line in the same direction to the line between the said 4th and 5th concessions, and that part of the Township of Westminster lying north of the line between the 1st and 2nd concessions, and east of the main road leading south from Clark's Bridge across the Thames.

DISTRICT OF MUSKOKA { W. C. Mahaffy, Judge, Bracebridge.
Thos. Johnston, C.C.A. and C.P., Bracebridge.

1.—The Village of Bracebridge, and the Townships of Macaulay, McLean, Ridout Monck and Caldwell, concessions, 1, 2, 3, 4, 5, 6, 7, 8 and 9, in the Townships of Stephenson, Bruce and Franklin, and that part of the Township of Watt, situated east of lot 21, in the several concessions thereof; and concessions 7, 8, 9, 10, 11, 12 and 13 in the Townships of Muskoka and Draper.

2.—The Village of Gravenhurst; the Townships of Morrison, Ryder and Oakley; and concessions 1, 2, 3, 4, 5 and 6 of the Townships of Muskoka and Draper.

3.—The Village of Huntsville, the Townships of Stisted, Chaffey and Sinclair; and concessions 10, 11, 12, 13 and 14 in the Townships of Stephenson, Brunel and Franklin.

4.—The Townships of Wood, Medora and Humphrey, and that part of the Township of Watt situated on the west of lot 21 in the several concessions thereof.

DISTRICT OF NIPISSING { Jos. A. Valin, Judge, North Bay.
A. G. Browning, C.C.A. and C.P., North Bay.

1.—To be composed of the Townships of Springer, Field, Badgerow, Caldwell and all that part of the District of Nipissing which is situated west of the line between the Indian Reserve and the Township of Widdifield, produced north and south, to the boundary of the said district and east of the eastern boundary of the fourth division,

2.—To be composed of the Townships of Mattawan, Olrig, Calvin, Papineau, Lauder, Pentland, Boyd, Osler, McLaughlin, Canisby, Sabine, Lyell, Airy, Murchison and Robinson, and all that part of the District of Nipissing situated east of the line between the Townships of Bonfield and Calvin, produced south to the provisional County of Haliburton, and east of the line between the Townships of Phelps and Olrig, produced north to the Ottawa River.

3.—To be composed of the Townships of Widdifield, Merrick, Mulock, Phelps, Ferris, Chisholm, Ballantyne, Wilkes, Biggar, Paxton, Butt, Davine, Hunter, McCraney, Finlayson, Peck and all that part of the District of Nipissing situated west of the line between the Townships of Phelps and Olrig produced north to the Ottawa River and east of the eastern boundary of first division.

4.—To be composed of the Townships of McKim, Neelon, Dryden, Blezard and all that part of the District of Nipissing which is situated west of the line between the said Township of Awrey and the Township of Hagar, produced north and south to the boundary of said district.

5.—To be composed of the Townships of Bonfield and Boulter.

6.—To be composed of Awrey, Hagar, Rutter, Hugel, Kirkpatrick, Dunnett, Appleby and Hawley, together with that portion of the said District of Nipissing lying north and south of the said district townships between the lines produced northerly and southerly along the easterly and westerly boundaries of the said division.

7.—To be composed of the Townships of Lorain, Buckley, Dymond, Harris, Casey, Brethour, Harley, Hilliard, Ingram, Hudson, Kerns, Armstrong, Evanturel, Marter, Henwood, Beaucamp, Dack, Chamberlain, Pacaud, Bryce, Robillard, Savard, Marquis,

Otto, Eby, Blain and Sharpe, and those portions of the unsurveyed parts of the said District lying northerly of the line marking the northerly boundary of the Township of Wyse, produced westerly till it meets the line between the Townships of Badgerow and Hugel, produced northerly for a distance of eighteen miles and easterly of the last mentioned line, produced northerly to the boundary of the said district.

NORFOLK { James Robb, Judge, Simcoe.
J. H Ansley, O.C.A. and C.P , Simcoe.

1.—The Town of Simcoe, the Gore of the Township of Woodhouse, and all that part of said Township lying west of the side line between lots 5 and 6, together with that part of the 4th, 5th and 6th concessions lying west of the side line between lots 12 and 13.

2.—The towoship of Townsend and the Village of Waterford.

3.—The Township of Windham.

4.—The Township of Middleton, and the Village of Delhi.

5.—The Township of Charlotteville.

6.—The Townships of North Walsingham, South Walsingham, and the Village of Port Rowan.

7.—The Township of Houghton.

8.—The Village of Port Dover, and that part of the Township of Woodhouse not included in Division No. 1, viz : all that part of the 1st, 2nd and 3rd concessions lying east of the side line between lots 5 and 6, and that part of the 4th, 5th and 6th concessions lying east of the said line, between lots 12 and 13 in said Township.

NORTHUMBERLAND & DURHAM. { T. M. Benson, Judge, Cobourg.
J. Ketchum, J. J., Cobourg.
J. W. Kerr, C. C. A & C. P., Cobourg.

1.—Townships of Cartwright and Darlington, and the Town of Bowmanville.

2.—Township of Clarke and Village of Newcastle.

3 —Township of Hope and Town of Port Hope.

4.—Townships of Caven, Manvers, South Monaghan and Village of Millbrook.

5.—Township of Hamilton and Town of Cobourg.

6.—Townships of Haldimand and Alnwick.

7.—Townships of Cramahe and Village of Colborne.

8.—Township of Brighton and Village of Brighton.

9.—Townships of Percy and Village of Hastings.

10.—Township of Murray.

11.—Township of Seymour and Village of Campbellford.

ONTARIO. { N. McCrimmon, Judge, Whitby.
D. J. McIntyre, J. J., Whitby.
J. E. Farewell, C. C. A. & C. P.

1.—Including the Townships of Whitby and East Whitby and the Towns of Whitby and Oshawa.

2.—The Township of Pickering.

3.—The Townships of Reach and Scugog and the Village of Port Perry.

4.—The Townships of Uxbridge and Scott and the Town of Uxbridge.

5.—The Township of Brock and the Village of Cannington.

6.—The Township of Thorah, and all that part of the Township of Mara lying south of the line between the 4th and 5th concessions.

7.—All that part of the Township of Mara lying north of the line between the 4th and 5th concessions, thereof, and the Township of Rama.

OXFORD. { Alex. Finkle, Judge, Woodstock.
F. R. Ball, C. C. A. & C. P., Woodstock.

1.—Comprising the Town of Woodstock, the Townships of Blandford, East Zorra, East Oxford, and that part of the Township of North Oxford, situated east of lot 16, and that part of West Oxford lying east of lot No. 7 to the Stage Road, thence on the north side of the Stage Road to where the said road intersects the Township of East Oxford.

2.—Comprises the Township of Blenheim.

3.—Comprises the Townships of West Zorra and East Nissouri.

4.—Comprises the Townships of North Norwich and South Norwich and the Village of Norwich.

5 —Comprises all those portions of the Townships of North Oxford and West Oxford not comprised in the 1st Division; the Town of Ingersoll and those portions of the 1st and 2nd concessions of the Township of Durham, west of the Middle Town line.

6.—Comprises the Town of Tilsonburg and all that portion of the Township of Durham not included in the 5th Division.

DISTRICT OF PARRY SOUND. { P. McCurry, Judge, Parry Sound. W. L. Haight, C. C. A. & C. P., Parry Sound.

1.—The Town of Parry Sound and the Townships of Foley, McDougall, Cowper and Carling, and all that portion of the district lying to the west of the east boundary of Carling, produced to the French River.

2.—The Townships of McKellar, Croft, Hagerman, Ferguson and all that portion of the district lying between the east boundary of Ferris and the west bounndary of Ferguson, produced to the French River.

3.—Townships of Humphrey, Christie, Monteith and Conger.

4.—Townships of McMurrich, Perry and Armour.

5.—The Townships of Spence, Chapman, Ryerson, Lount, Proudfoot, Bethune and Sinclair.

6.—That territory bounded on the west by the western boundaries of Townships of Pringle and Patterson, and the western boundary of the Township of Patterson, produced to French River and Lake Nipissing; on the east by the boundary of the District of Parry Sound, and on the south by the southern boundaries of the Townships of Himsworth, Gurd and Pringle.

7.—The Townships of Machar, Laurier, Strong and Joly.

PEEL. { D. McGibbon, Judge, Brampton. W. H. McFadden, C. C. A. & C. P., Brampton.

1.—Town of Brampton, Township of Chinguacousy and northern Division of Township of Toronto Gore.

2.—Village of Streetsville, Township of Toronto, and southern Division of Township of Toronto Gore.

3.—Township of Caledon.

4.—Village of Bolton, Township of Albion.

PERTH. { J. A. Barron, Judge, Stratford. J. Idington, C. C. A. & C. P., Stratford.

1.—To consist of all that part of the Township of North Easthope west of the line between lots 25 and 26, and south of the road between the 8th and 9th concessions, and all that part of the Township of South Easthope west of the side line, between lots 25 and 26; all that part of the Townships of Downie and Gore north and east of the concession line between the 10th and 11th concessions and the Oxford Road; and all the Township of Ellice from the 1st to the 13th concession, inclusive.

2.—To consist of all that part of the Township of Fulton not included in Division No. 3, and the Townships of Hibbert and Logan.

3.—To consist of that portion of the Township of Downie west of the Oxford Road, and south of the concession line between the 10th and 11th concessions; the Township of Blanshard; all that part of the Township of Fullerton comprising the 13th and 14th concessions, and south of a road leading from the Mitchell Road, between lots 24 and 25, east to lot 3 in the 10th concessions; thence east along the line between the 10th and 11th concessions to the town line.

4.—To consist of that part of the Township of North Easthope east of the line between lots 25 and 26, and north of the 8th concession, inclusive, with the 9th and 10th concessions; all that part of the Township of South Easthope not included in Division No. 1.

5.—To consist of the Township of Mornington, and all that part of the Township of Elma from lots 53 to 72, both numbers inclusive, of the 1st concession, and from lots No. 27 to 16, both numbers inclusive, in and from the 2nd to the 18th concession, both concessions, inclusive, of the said Township of Elma; and concessions 14, 15 and 16 of the Township of Ellice; and concessions 11th, 12th, 13th and 14th of the Township of North Easthope.

To consist of the Township of Wallace and all that part of the Township of Elma from the 1st concession to the 18th concession, both concessions inclusive, and comprising lots Nos. 1 to 52, both inclusive, of the 1st concession, and lots Nos. 1 to 26 inclusive, from the 2nd to the 18th concession, both concessions inclusive.

PETERBOROUGH. { C. A. Weller, Judge, Peterborough.
R. E. Wood, C. C. A. & C. P., Peterborough.

1.—Composed of the Town of Peterborough, the Village of Ashburnham, the Townships of North Monaghan and Ennismore, and all that part of the Township of Harvey, lying west of Pigeon Lake and South of Bobcaygeon; and all the Township of Smith, lying south of the 7th concession; and all the Township of Otonabee lying west of the 8th concession and north of lots 21 from the said 8th concession to the western boundary of said Township of Otonabee; and all the Township of Douro lying south of lots numbered 11; and all that part of the Township of Dummer lying south of lots numbered 11 and west of the 5th concession.

2.—Composed of the Township of Asphodel, Belmont and Methuen, and that part of the Township of Drummer lying east of the 4th concession and south of lots numbered 1 to 11.

3.—Composed of all that part of the Township of Otonabee lying east of the 9th concession; and all that part of the said Township of Otonabee lying south of lots numbered 22 and west of the 8th concession.

4—Composed of all that part of the Township of Smith lying north of the 6th concession; all that part of the Township of Douro lying north of lots numbered 10; and all that part of the Township of Dummer lying north of lots numbered 10; and also of the Village of Lakefield, and of the Township of Galway, and all the Township of Harvey, except that portion lying west of Pigeon Lake and south of Bobcaygeon.

5.—Composed of the Townships of Burleigh, Cavendish, Anstruther and Chandos.

PRESCOTT & RUSSELL. { P. O'Brian, Judge, L'Original. A. Constantineau, J J., L'Original. J. Maxwell, C.C.A. & C.P., L'Original.

1.—Comprises the whole of the Township of Longueuil, the municipality of the Village of L'Original, and the 1st concession of the Township of Caledonia.

2.—Comprising all that part of the Township of West Hawkesbury, extending from front of the 3rd concession to the rear of the said township.

3.—Comprises the whole of the Township of East Hawkesbury.

4.—Comprising the Township of North Plantagenet, and that part of the Township of South Plantagenet, lying north of the Nation River.

5.—Comprising the whole of the Township of Cumberland.

6.—Comprising the whole of the Township of Russell.

7.—Comprising the two front concessions of the Township of West Hawkesbury, and the Municipality of Hawkesbury Village, within the same.

8.—Comprising the Township of Caledonia (excepting the 1st concession of the said township), and also that portion of the Township of South Plantagenet lying south and east of the Nation River.

9.—Comprising the whole of the Township of Alfred.

10.—Comprises the whole of the Township of Clarence.

11.—Comprises the whole of the Township of Cambridge.

PRINCE EDWARD { E. Merrill, Judge, Picton. Jas. R. Brown, C.C.A. & C.P., Picton.

1. The Town of Picton, the second and third concessions of "Military Tract," from the west line of lot No. 13, eastward; Gore "G"; 1st and second concessions north of the Carrying Place; 1st concession southeast of the Carrying Place, and 2nd concession north of Black River, including Gores "K" and "L" and McCan Gores, all in the Township Hallowell; Block "I" the concessions north and east of East Lake, and Gore "B" in the Township of Athol, and 1st and 2nd concessions south of the Bay of Quinte, and Gore "A" in the Township of North Marysburg, and 1st concession southwest of Green Point, to the end of Carmen's Point in Sophiasburg.

2.—The Township of South Marysburg, and the southern part of Athol, commencing at the outlet of East Lake, thence down to the head of the lake, thence down to the base line between the 1st concession south and the 1st concession north of East Lake, till it strikes the township line of Hallowell, thence down said township line till it strikes South Marysburg.

3.—The Township of Sophiasburg, together with Big Island, excepting the 1st concession southwest of Green Point to the end of Carman's Point.

4.—All that part of the Township of Ameliasburg lying east of the line between lots No. 86 and 87, in the 1st, 2nd, 3rd and 4th concessions of said Township, including Huff's Island.

5.—That part of the Township of Hillier not included in the 7th division, also the 1st and 2nd concessions north of West Lake, and west of lot No. 7 in the said concession, and that part of Irwin Gore lying north of and west of lot No 7 in the second concession, and the west part of the 2nd concession produced west of lot No. 74, in that concession in the Township of Hallowell.

6.—Block (IV.) four, concession south side of West Lake, 1st concession "Military Tract," 2nd and 3rd concessions of said tract west of lots No. 13 in those concessions, Gore "E" 1st and 2nd concessions north of West Lake and east of lot No. 6 in those concessions; the Gerrow Gore and that part of Irwin Gore not included in Division No. 8, and all that part of the 2nd concession produced east of lot No. 75 in the township of Hallowell.

No. 7.—All that part of the township of Ameliasburg lying west of the line between lots No. 86 and 87, in the 1st, 2nd, 3rd and 4th concessions of said township; all that part of the 4th and 5th concessions of the township of Hillier west of the line between lots No. 36 and 87, and the 3rd concession west of the line between lots No. 22 and 23, with that part of the 2nd concession lying north of Pleasant Bay in the said township of Hillier.

8.—All the point lying east of the west line of Marshland's Gore, the concession north of Smith's Bay and Waupoos Island in the Township of North Marysburg.

DISTRICT OF RAINY RIVER { T. W. Chapple, Judge, Rat Portage.
H. Langford, C.C.A. & C.P., Rat Portage.

1.—That part of the District composed of the territory lying west of a line commencing at Pickerel Rapids, on Cedar and Manitou Lakes, and extending northward parallel with the Sixth Meridian line to the northern boundary of the district, and north of the line drawn from the Mouth of Rainy River, at Hungary Hall, in a north and easterly direction along the shore of the Lake-of-the-Woods to the easterly end of Sabiskong Bay, thence easterly to the said Pickerel Rapids.

2.—That part of the district composed of the territory lying south of said line, drawn from the mouth of Rainy River, at Hungary Hall, in a north easterly direction along the shore of the Lake-of-the-Woods to the eastern end of Sabiskong Bay, thence easterly to where it intersects a line extending northwards, from the easterly bounday line of the Townships of Aylesworth, Lash and Carpenter, and west of the said line extended northwards from the eastern boundary of the said townships.

3.—That part of the district composed of the said line forming the eastern boundary of the said above mentioned townships, extended northward and south of the said line running eastward from the east end of Sabiskong Bay to Pickerel Rapids, and extended further in an easterly direction to the boundary line, between the Districts of Rainy River and Thunder Bay, at the southwest angle of Hawk Lake.

4.—That part of the district lying north of the northern boundary of the said Third Division Court, and east of the eastern boundary of the said First Division Court.

RENFREW { John Deacon, Judge, Pembroke.
Thomas Deacon, J. J , Pembroke.
J. H. Metcalf, C. C. A. & C. P., Pembroke.

1.—Comprising the Town of Pembroke, the Township of Pembroke, Stafford, Alice, Petawawa, Buchan, Rolph, Wylie, McKay, Fraser, Herd, Clara and Maria, and all that part of the Township of Wilberforce from the 18th to the 25th concession, both inclusive, and also those parts of the 14th, 15th, 16th and 17th concessions of the same Township of Wilberforce lying north of Snake River and east of Lake Dore.

2.—Comprising all that part of the Township of Westmeath lying east and north of the Muskrat Lake and River and all those parts of the Township of Ross, from the 5th to the 9th concession, both inclusive, east of Muskrat Lake, and from the 7th to the 13th (of the other) concessions of Ross, both inclusive, of the said Township of Ross.

3.—Comprising the Village of Renfrew, and the Townships of Horton and Adamston, excepting the lots numbered 1 to 22, inclusive, in the 9th, 10th, 11th and 12th concession and the whole of the concessions numbering 13, 14, 15 and 16 in said township.

4.—Comprising the Village of Arnprior and the Township of McNab.

5.—Comprising the Townships of Bagot, Blythefield, Brougham, and Matawatchan, and all the lots numbered 1 to 22, inclusive, in the 9th, 10th, 11th, and 12th concessions in the said Township of Adamston, and the whole of the concessions numbered 13, 14, 15 and 16 in the said townships.

6.—Comprising the Townships of Grattan, Sebastopol, South Algoma, North Algoma, and all that part of the Township of Wilberforce, from the 1st to the 17th concessions, both inclusive, excepting those parts of the 14th, 15th, 16th and 17th concessions of said Township of Wilberforce lying north of Snake River and east of Lake Dore.

7.—Comprising the Township of Bromley, and all that part of the Township of Westmeath west of Muskrat Lake, and all those parts of the Township of Ross, from the 1st to the 4th concessions, both inclusive, east of Muskrat Lake, and from the 1st to the 6th of the other concessions, both inclusive, of the said Township of Ross.

8.—Comprising the Townships of Brudenell, Radcliffe, Raglan, Lynedoch, Griffith, Hagarty, Sherwood, Jones, Richards and Burns.

SIMCOE { J. A. Ardagh, Judge, Barrie.
W. F. A. Boys, J. J., Barrie.
J. R. Cotter, C. C. A. and C. P., Barrie.

1.—Comprising the Town or Barrie, the Township of Vespra, except that portion lying west of the Nottawasaga River, and excepting also lots Nos. 38, 39 and 40, in the 1st and 2nd concessions, and lots Nos. 1, 2 and 3 in the 3rd, 4th, 5th, 6th and 7th concessions, respectively. That portion of the Township of Oro lying south of lots Nos. 21 in the 1st and 2nd concessions (including the Ranges), and south of lots Nos. 13 in the 3rd, 4th, 5th, 6th, 7th and 8th concessions, respectively; that portion of the Township of Innisfil lying east of lots Nos. 5 in the 6th, 7th and 8th concessions, and that portion lying north of the 8th concession; that portion of the Township of Essa lying north of lots Nos. 19 in the 7th, 8th, 9th, 10th and 11th concessions.

2.—The Village of Bradford; the Township of West Gwillimbury, excepting thereout lots Nos. 1, 2, 3, 4 and 5 in the 14th and 15 concessions; the Township of Innisfil, except that portion lying north of the 5th concession, and excepting also lots Nos. 1, 2, 3, 4 and 5 in the 1st, 2nd, 3rd, 4th and 5th concessions.

3.—The Township of Tecumseth, except concessions 12, 13, 14 and 15; the Township of Adjala, except that portion lying north of lots Nos. 25 in the 8th concession thereof.

4.—The Town of Collingwood, the Village of Stayner, that portion of the Township of Nottawasaga lying north of lots Nos. 18 in the 12th concession thereof; that portion of the Township of Sunnidale lying north of the 8th concession; that portion of the Township of Flos lying west of the Nottawasaga River; the Islands in Lake Huron contiguous to the Township of Nottawasaga.

5.—The Township of Flos, except that portion lying west of the Nottawasaga River, the Township of Medonte, except that portion lying east of the 10th concession, and north of lots Nos. 10 in the 9th and 10th concessions, respectively, that portion of the Township of Oro lying north of the southern boundaries of lots Nos. 21 in the 1st and 2nd concessions, and north of the southern boundaries of lots Nos. 13 in the 3rd, 4th, 5th, 6th, 7th and 8th concessions, respectively; lots 38, 39 and 40 in the first and second concessions, and lots Nos. 1, 2 and 3 in the 3rd, 4th, 5th, 6th and 7th concessions of the Township of Vespra.

6.—The Town of Orillia, the Township of Orillia, southern division, the Township of Orillia, northern division, except that portion lying north of lots Nos. 15 in the first seven concessions thereof; that portion of the Township of Oro lying east of the 8th concession; that portion of the Township of Medonte being composed of lots Nos. 1 to 6 (both inclusive) in the 11th, 12th, 13th and 14th concessions; the islands in Lake Simcoe contiguous to the townships and portions of townships above described lying wholly or for the most part opposite thereto.

7.—The Township of Nottawasaga, except that portion lying north of lots Nos. 18 in the 12th concession thereof; the Township of Sunnidale; except that portion lying north of the 8th concession; that portion of the Township of Vespra lying west of the Nottawasaga River; that portion of the Township of Essa lying north of lots Nos. 19 in the 1st, 2nd, 3rd, 4th, 5th and 6th concessions; that portion of the Township of Tossorontio lying north of lots Nos. 20 in each of the seven concessions thereof.

8.—The Township of Essa, except that portion lying north of lots Nos 19 in each of the eleven concessions thereof; the Township of Tossorontio, except that portion lying north of Lots Nos. 20 in each of the seven concessions thereof, that portion of the Township of Innisfil being composed of Lots Nos. 1, 2, 3, 4 and 5 in the 1st, 2nd, 3rd, 4th, 5th, 6th, 7th and 8th concessions; the 12th, 13th, 14th and 15th concessions of the Township of Tecumseth; lots Nos. 1, 2, 3, 4 and 5 in the 14th and 15th concessions of the Township of West Gwillimbury; that portion of the Township of Adjala lying north of lots Nos. 25 in the eight concessions thereof.

9.—The Town of Penetanguishine, and the Village of Midland, the Township of Tiny; that portion of the Township of Tay lying west of the 8th concession; the Islands in Lake Huron contiguous to the Township of Tiny, and to that part of the Township of Tay, forming part of the ninth division, and lying wholly and for the most part opposite thereto.

10.—The Township of Matchedash, that portion of the Township of Orillia, northern division, lying north of lots Nos. 15 in the first seven concessions thereof: that portion of the Township of Medonte lying north of lots Nos. 6, in the 11th, 12th, 13th and 14th concessions, and that portion lying north of lots Nos. 10, in the 9th and 10th concessions thereof; the Township of Tay, except portion lying west of the 8th concession; the Island in Lake Huron, contiguous to that portion of the Township of Tay, forming part of the 10th division, and lying wholly or for the most part opposite thereto.

NOTE.—Each of the said several divisions shall include all allowances for roads embraced within its external limits, and shall also extend to the centre of every allow-

ance for road lying external and adjacent to every such division, excepting always where any such last-mentioned allowance is hereinbefore declared to belong to or form part of any particular division.

STORMONT, DUNDAS & GLENGARRY { J. R. O'Reilly, Judge, Cornwall. Jas. Dingwall, C. C. A. and C. P., Cornwall.

1.—Township of Charlottenburg, in the County of Glengarry.

2.—Township of Lochiel, in the County of Glengarry.

3.—Town and Township of Cornwall, in the County of Stormont.

4.—Township of Osnabrook, in the County of Stormont.

5.—Township of Williamsburg, in the County of Dundas.

6.—Township of Matilda, in the County of Dundas.

7.—Township of Mountain, in the County of Dundas.

8.—Township of Finch, in the County of Stormont.

9.—Township of Lancaster, in the County of Glengarry.

10.—Township of Winchester, in the County of Dundas.

11.—Township of Roxborough, in the County of Stormont.

12.—Township of Kenyon, in the County of Glengarry.

DISTRICT OF THUNDER BAY { F. Fitzgerald, Judge, Port Arthur. T. A. Gorham, C. C. A. & C. P., Port Arthur.

1.—All that part of the District lying west of the meridian of 87 degrees of west longitude, to the meridian of the most easterly part of Hunter's Island, excepting therefrom the Municipality of Neebing.

2.—

3.—Comprising the Municipality of Neebing.

VICTORIA { W. W. Dean, Judge, Lindsay. J. E. Harding, J. J., Lindsay. A. P. Devlin, C. C. A. & C. P., Lindsay.

1.—The first consists of the following Townships and parts of Townships, viz.: of the 15th concession of the Township of Mariposa, and the Township of Eldon, except the ranges north and south of Portage Road.

2.—The second consists of the following Townships: all of the Township of Fenelon, except that portion lying east of the Scugog River, and south of Sturgeon Lake, and the Township of Somerville.

3.—The third consists of the Township of Vernlam.

4 —The fourth consists of the Township of Emily.

5 —The fifth consists of the Town of Lindsay, Township of Ops, and that portion of the Township of Fenelon, lying east of the Scugog River, and south of Sturgeon Lake.

6 —The sixth consists of the Township of Mariposa, except the 15th concession.

7.—The seventh consists of the Townships of Carden and Dalton, Laxton, Digby and Longford, and the Township of Bexley, and that portion of the Township of Eldon north of Portage Road, and the range south of Portage Road.

WATERLOO { D. Chisholm, Judge, Berlin.
W. H. Bowlby, C. C. A. & C. P., Berlin.

1.—All that portion of the Township of Waterloo lying north of Block line on the west side of the Grand River, and that part of the upper block of said township lying on the east side of the Grand River, north of lots Nos. 115, 109, 104 86, and 95, to the Guelph Township line, including the Towns of Berlin and Waterloo.

2.—All that part of the Township of Waterloo lying south of the Block line on the west of the Grand River, and that part lying on the east side of the Grand River, south of the northern Boundary of lots Nos. 115, 109, 104, 85, and 95, to the Guelph Township line, including the Villages of Preston and Hespeler.

3.—All that portion of the Township of North Dumfries lying east of lot No. 19, in the 7th concession, and running a course with the eastern boundary of the said lot in a northerly direction up to the 12th concession; thence along the eastern boundary of lot No. 23, in the said 12th concession, to the township line, including the Town of Galt.

4.—The Township of Wilmot, including the Village of New Hamburg.

5.—The Township of Wellesley.

6.—The Township of Woolwich.

7.—All that part of the Township of North Dumfries lying west of the eastern boundary of said lot No. 18, in the 7th concession; thence along the eastern limits of said lot No. 19, the same course thereof, in a northerly direction to the 15th concession; thonce along the westerly limit of lot No. 23, in the said 12th concession, to the township line, including the Village of Ayr.

WELLAND { W. W. Fitzgerald, Judge, Welland.
T. D. Cowper, C. C. A. & C. P., Welland.

1.—Comprising the Township of Crowland; that part of the Township of Thorold lying south of the line between lots 178 and 195, running through to Pelham; that

part of Pelham lying south of the 4th concession, and that part of Humberstone lying north of the concession line, between the 4th and 5th concessions, being the whole of the 15th concession and the Town of Welland.

2.—Comprising the Township of Wainfleet.

3.—Comprising the Township of Bertie, and those parts of the Township of Humberstone not included in Nos. 1 and 6, and the Village of Fort Erie.

4.—Comprising the Township of Willoughby, the Village of Chippawa, and that part of the Township of Stamford south of the line between lots 136 and 137 ; easterly from the westerly limit of the Township to the southeast angle of lot No. 133 ; thence north on the line between lots No. 132 and 133, to the northern boundary of the Township, including the towns of Clifton and Navy Island.

5.—Comprising those parts of the Township of Stamford, Thorold and Pelham, not included in any other Division, and the Town of Thorold.

6.—Comprising all the Township of Humberstone, lying south of the 5th concession, and west of the side lines, between lots No. 9 and 10 in the several other concessions, thereof, and the Village of Port Colborne.

WELLINGTON { A. C. Chadwick, Judge, Guelph.
Joseph Jamieson, J.J., Guelph.
H. W. Peterson, C. C. A., C. P., Guelph.

1.—The Town and Township of Guelph.

2...The Township of Puslinch.

3.—The Township of Eramosa.

4.—Consisting of the Township of Nichol, excepting the 11th and 12th concessions ; the Municipality of Fergus ; the first eight concessions of the Township of Garafraxa ; and lots 1 to 18, both inclusive, in concessions A and B of the Township of Peel, lots 13, 14, 15, 16, 17 and 18, in concessions 18 and 19, and lots 19, 20 and 21, in the 17th concession of the Township of Peel.

5.—The Township of Erin.

6.—Consisting of the Township of Pilkington, and the 11th and 12th concessions of the Township of Nichol ; the Municipality of the Village of Elora, and lots numbers 19 and upwards belonging to the 9th, 10th, 11th, 12th, 13th, 14th, 15th and 16th concessions of Peel.

7.—Consisting of concessions 1 to 16, inclusive, of the Township of Maryboro', and concessions 1 to 16, inclusive, of the Township of Peel, except lots 19, 20, 21, 22 and 23 of those concessions in that Township.

8.—Consisting of that part of the Township of Arthur, south and southeast of lot 15, on the west side of the Owen Sound Road, in the Township of Arthur ; that part of the Township of Luther, from 1 to 16, both inclusive ; and lots 1 to 12, both inclusive, of the 17th and 18th concessions of the Township of Peel ; lots 5 to 11, both inclusive, of the 19th concession of said township of Peel ; and lots 19 to 23, both inclusive, of concessions "A" and "B" of said Township of Peel.

9.—The territory formerly comprised in this Division is now in the County of Dufferin.

10.—Consists of the Township of Minto.

11.—Consists of the Town of Mount Forest, and that part of the Township of Arthur north of lot 16, west of the Owen Sound Road ; lot 17, on the Owen Sound Road, and lot 13, east of the Owen Sound Road.

WENTWORTH { O. G. Snider, Judge, Hamilton. J. F. Monck, J. J., Hamilton. John Crerar, C. C. A., C. P., Hamilton.

1.—All that part of the Township of Barton lying east of the lines between lots 14 and 15, and all that part of Hamilton City east of Hughson Street.

2.—The whole of the Township of Flamboro' West, the Town of Dundas, and the east half of the Township of Ancaster.

3.—The whole of the Township of Flamboro' East.

4.—The whole of the Township of Beverley, and the west half of the Township of Ancaster.

5.—The whole of the Township of Saltfleet.

7.—The whole of the Township of Glanford.

8.—The whole of the Township of Binbrook.

9.—All that part of the Township of Barton lying west of the lines between lots 14 and 15, and part of Hamilton City west of Hughson Street.

YORK { J. E. Macdougall, Judge, Toronto. Ed. Morgan, J. J., Toronto. P. M. Morson, 2nd J. J., Toronto. H. H. Dewart, C. C. A., Toronto. H. E. Irwin, C. P., Toronto.

TORONTO CITY.—J. W. Curry, Crown Attorney.

1.—The City of Toronto, east of Yonge Street, at date of 14th September, 1875, (*i.e.*, Bloor, Sherbourne and Howard Streets on the north, the Don on the east, down to Queen Street, and all south of Queen Street as far as Lee Avenue.

2.—Concessions 5 to 11, inclusive, of the Township of Markham ; and concessions 5 to 10, inclusive, of the Township of Whitchurch, from 1 to 10, inclusive, together with the Villages of Markham and Stouffville.

3.—Concessions 1 to 4, inclusive, of the Township of Markham ; and concession 1 to 4, inclusive, of the Township of Whitchurch from lots 1 to 10, inclusive ; and concessions 1 to 3, inclusive, of the Township of Vaughan.

4.—The Township of Whitchurch, from the line between lots 10 and 11 northward; and the Township of East Gwillimbury.

5.—The Townships of Georgina and North Gwillimbury.

6.—The Township of King and the incorporated Village of Aurora.

7.—Concessions 1 to 11, inclusive, of the Township of Vaughan.

8.—All that portion of the Township of York lying west of Yonge Street and the Township of Etobicoke.

9.—Township of Scarboro' and all that portion of the Township of York which lie east of Yonge Street and the Village of Leslieville.

10.—The City of Toronto, west of Yonge Street, at date of 19th Sept., 1875, (*i.e.*, Bloor Street on the north and Dufferin Street on the west)

DIVISION COURT TARIFF.

Fees to be received by the several Clerks and Bailiffs of Division Courts, from and after 1st July, 1894.

FORM I.

CLERK'S FEES.

1. Receiving claim, numbering and entering in procedure book..... $0 15
   (This item to apply to entering in the procedure book a transcript of judgment from another Court, but not an entry made for the issue of a judgment summons).

2. Issuing summons, with necessary notices and warnings thereon, or judgment summons (as provided in the forms) in all :
   Where claim does not exceed $20..... 40
   " exceeds $20 and does not exceed $60..... 50
   " exceeds $60 and does not exceed $100..... 60
   " exceeds $100..... 1 00
   (*N. B.*—In replevin and interpleader suits the value of goods to regulate the fee).

3. Copy of summons, including all notices and warnings thereon..... 25

4. Copy of claim (including particulars), when not furnished by plaintiff..... 25

5. Copy of set off or counterclaim (including particulars), when not furnished by the defendant..... 25
   (NOTE.—In either of the last two preceding items the fees may be taxed against the party ordered to pay costs).

6. Receiving and entering bailiff's return to any summons, writ or warrant issued under the seal of the Court (except summons to witness and return to summons or papers from another division)..... 15

7. Taking confession of judgment..... 10
   (This does not include affidavit and oath, chargeable under item 8).

8. Every necessary affidavit, if actually prepared by the clerk, and administering oath to the deponent..... 25

9. Furnishing duly certified copies of the summons and notices and papers with all proceedings, for purposes of appeal (under section 151), as required by either party, per folio of 100 words..... 05

10. Certificate therewith..... 25

11. Certifying under the seal of the Court, and delivering to a judgment creditor a memorandum of the amount of judgment and costs against a judgment debtor, under The Creditor's Relief Act or for any other purpose..... 25

12. Copies of papers, for which no fee is otherwise provided, necessarily required for service or transmission to the judge, each..... 10
If exceeding two folios, per folio..... 05

13. Every notice of defence or admission entered, or other notice required to be given by the Clerk to any party to a cause or proceeding, including mailing, but not postages..... 15

14. Entering final judgment by clerk, on special summons, where claim not disputed..... 50

15. Entering every judgment rendered at the hearing, or final order made by the judge..... 50

(NOTE.—This fee does not apply to any proceeding on judgment summons).

(This one fee of 50 cents will include the service of recording at the trial and afterwards entering in the procedure book the judgment, decree and order in its entirety, rendered or made at the trial. If a garnishee proceeding before a judgment, the fee of 50 cents will be allowed for the judgment in respect to the primary debtor, and a like fee of 50 cents for the adjudication, whenever made, in respect to the garnishee).

16. Subpœna to witness..... 25

(The subpœna may include any number of names therein, and only one original subpœna shall be taxed, unless the judge otherwise orders).

17. For every copy of subpœna required for service..... 05

18. Summons for jury (including copy for each juryman, when required by the parties)..... 1 25

19. Calling and returning jury ordered by the judge..... 25

20. Every order of reference, or order for adjournment, made at hearing, and every order requiring the signature of the judge and entering the same, including final order of judgment debtor's examination..... 25

(Any warning necessary with order, *e.g.*, the warning in Form 73, forms part of the order.)

21. Transcript of judgment to another Division Court..... 25

22. (Abolished—Transcript to County Court.)

23. Every writ of execution, warrant or attachment, or warrant of commitment and delivering same to bailiff..... 50

24. Renewal of every writ of execution, when ordered by the judgment creditor, or of warrant of committment, when ordered by the judge..... 15

25. Every bond, when necessary, and prepared by the clerk, (including affidavits of justification and of execution)..... 1 00

26. For necessary entries in the debt attachment book, in each case, (in all).. 20

27. Transmitting transcript of judgment; or transmitting papers for service to another division, or to the judge on application to him, including necessary entries and mailing, but not including postages,..... 25

28. Receiving papers from another division for service, entering the same, handing to the Bailiff, receiving and entering his return and transmitting the same (if return made promptly, not otherwise)..... 30

29. Search by person not party to the suit of proceeding, to be paid by the applicant..... 10

Search by party to the suit or proceeding, where the suit or proceeding is over one year old..... 10

(No fee is chargeable for search to a party to the suit or proceeding, if the same is not over one year old.)

30. Taxing costs, in defended suits, after judgment pronounced.....$0 25

31. Making out statement of costs in detail (including bailiff's fees), at the request of any party, or for the purpose of settlement, or upon entering judgment by default..... 10

(Neither item 30 nor 31 applies to statement of costs endorsed on summons or copy to be served.)

32. Taxing bailiff's costs, under section 7 of the Division Courts Act, 1889..... 25

33. Copying and transmitting to municipal clerk, judge's decision to appeal..... 50

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2. Bailiff's Fees.

1. Service of summons issued under the seal of the Court, or judge's summons or order, on each person, (except summons to witness and summons to juryman:)

Where claim does not exceed $20..... 30
" exceeds $20 and does not exceed $60..... 40
" exceeds $60 and does not exceed $100..... 50
" exceeds $100..... 75

(In interpleader suits the value of the goods to regulate the fee.)

2. For every return as to service under item 1; attending at the clerk's office and making the necessary affidavit (as provided by Rule 183)..... 15

3. Service of summons on witness or juryman, or service of notice..... 15

4. Taking confession of judgment and attending to prove..... 10

5. For calling parties and their witnesses at the sittings of the Court, in every defended case, and at the hearing of every judgment summons..... 15

6 Enforcing every writ of execution, or summons of replevin, or warrant of attachment or warrant against the body, each :

Where claim does not exceed $20.....	50
" exceeds $20 and does not exceed $60.....	75
" exceeds $60.....	1 00

(When goods replieved, the value of the goods to regulate the amount of the fee. This fee does not include service of summons in replevin on defendant.)

Fees under Creditor's Relief Act (see section 7 of 52 Vict. cap. 12 ; and section 25 of R. S. O., cap. 65) shall be taxed according to this tariff.

7. Every mile necessarily travelled to serve summons, or process, or other necessary papers, or in going to replevy goods, or to seize on attachment, or in going to seize on a writ of execution, where money paid on demand, or made on execution, or case settled after seizure..... 12

8. Mileage going to arrest under warrant, when arrest made, per mile..... 12

9. Mileage carrying delinquent to prison, including all expenses and assistance, per mile..... 20

10 Every schedule of property seized, attached or replevied, including affidavit of appraisal, when necessary :

Not exceeding $20.....$0	30
Exceeding $20 and not exceeding $60.....	50
Exceeding $60.....	75

11. Every bond, when necessary, when prepared by the bailiff, including affidavit of justification and execution..... 50

12 Every notice of sale, not exceeding three, under execution or under attachment, each..... 15

13. Reasonable allowances and disbursements, necessarily incurred, in the care and removal of property :

(*a*) If a bailiff removes property seized, he is entitled to the necessary disbursements, in addition to the fees for seizure and mileage.

(*b*) If he takes a bond, then to 50 cents, instead of disbursements for removal of property.

(*c*) If assistance is necessary in the seizure, or securing, or removal, or retaining of property, the bailiff is entitled to the disbursements, for such assistance.

(*d*) All charges for disbursements are to be submitted to the clerk for taxation, subject to appeal to the judge.

(*e*) The bailiff must in all cases endorse a memorandum of all his charges on the back of the execution, or state them on a separate slip of paper, so that the clerk may conveniently tax the bailiff's charges for fees and disbursements.

(*f*) The clerk is in all cases to sign the memorandum of his taxation and preserve it among the papers in the cause, together with the execution, for future reference, and thereby enable the clerk to certify the bailiff's returns properly.

14. If execution, or process in attachment in the nature of execution, be satisfied, in whole or in part, after seizure and before sale, whether by action of the

parties or otherwise, the bailiff shall be entitled to charge and receive 3 per cent. on the amount directed to be levied, or on the amount of the value of the property seized, whichever shall be the lesser amount.

15. Poundage on executions, and on attachments in the nature of executions, 5 per cent. exclusive of mileage for going to seize and sell, upon the amount realized from property, necessarily sold.

3.—Fees to Witnesses and Appraisers.

Allowance to Witnesses.

Attendance, *per diem*, to witnesses residing within three miles of the place where the Court is held, if within the county	75
And if without the county	1 00
Attendance, if witness resides over three miles from the place of sittings, and within the county, *per diem*	1 00
Attendance, if witness resides without the county and more than three miles from the place of sittings, *per diem*	1 25
Barristers and solicitors, physicians and surgeons, engineers and veterinary surgeons, other than parties to the cause, when called upon to give evidence of any professional service rendered by them, or to give professional opinions, *per diem*	4 00

(Note.—Disbursements to surveyors, architects and professional witnesses, such as are entitled to specific fees by statute, are to be taxed, as authorized by such statute.)

If witnesses attend in one case only, they will be entitled to the full allowance.

If they attend in more than one case, they will be entitled to a proportionate part in each cause only.

The travelling expenses of witnesses, over three miles, shall be allowed, according to the sums reasonably and actually paid, but in no case shall exceed twenty cents per mile, one way.

Fees to Appraisers.

Fees to Appraisers of Goods, etc., Seized Under Warrant of Attachment.

To each appraiser, 50 cents per day, during the time actually employed in appraising goods—to be paid in the first instance by plaintiff, and allowed as costs in the cause.

Fees in Suits not Exceeding $10.

(57 Vict., cap. 23, sec. 11.)

Clerk.

For all services, from entering action, or suing out a judgment or interpleader summons, up to and including the entering of final judgment or final order on any such judgment, or interpleader summons, in case the action proceeds to judgment or final order	$1 25

In case the action does not proceed to judgment or final order, the fees heretofore, or that may hereafter be payable, but not exceeding in the whole the said sum.

For issuing writ of execution, warrant of attachment, or warrant for arrest of delinquent and entering the return thereto 50

Bailiff.

For all services rendered in serving summons and making return, and any other service that may be necessary, before the judgment is entered by the clerk or pronounced by the judge, mileage excepted 40

For enforcing execution, schedule of property seized, or attached, bond, where necessary, and all other necessary acts done by him, after seizure, mileage excepted, if money made or case settled, after levy 1 00

(Necessary disbursements incurred in the care and removal of property shall be allowed, to be first taxed by the clerk, subject to the approval of the judge.

REPORT

OF THE

INSPECTOR OF LEGAL OFFICES

ONTARIO

1900.

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO.

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1901.

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TORONTO.

EIGHTEENTH ANNUAL REPORT

OF THE

INSPECTOR OF LEGAL OFFICES

To the Honourable Sir Oliver Mowat, K.C.M.G., Lieutenant Governor of the Province of Ontario :

SIR :—I have the honour to present the eighteenth annual report of the Inspector of Legal Offices for the Province of Ontario upon the affairs and condition of the County Judicial offices throughout the Province for the year ending 31st December, 1900.

The following officers have been appointed during the year :—

SURROGATE JUDGES: His Honour Robert Baldwin Carman, Judge of the County Court of the County of Lincoln, to be Surrogate Judge of said County; gazetted 31 March. His Honor James Redmond O'Reilly, Judge of the County Court of the United Counties of Stormont, Dundas and Glengarry, to be Surrogate Judge of said United Counties ; gazetted 31st March.

SHERIFFS: John Motz of the Town of Berlin, in the County of Waterloo, Esquire, to be Sheriff within and for the said County of Waterloo, in the room and stead of Moses Springer, Esquire, deceased ; gazetted 22nd December.

LOCAL MASTERS: His Honour Daniel Frazer Macwatt, Judge of the County Court of the County of Lambton, to be a Local Master of the Supreme Court of Judicature for Ontario, in and for the said County of Lambton ; gazetted 10th March. His Honour Patrick McCurry, Judge of the District Court of the District of Parry Sound, to be a Local Master of the Supreme Court of Judicature in and for the Provisional Judicial District of Parry Sound ; gazetted 17th March. Cornelius John O'Neill, of the City of Chatham in the County of Kent, Esquire, Barrister-at-law, to be a Local Master of the Supreme Court of Judicature for Ontario in and for the said County of Kent, in the room and stead of Robert O'Hara, Esquire, deceased ; gazetted 17th November. His Honour John Augustus Barron, Judge of the County Court of the County of Perth, to be a Local Master of the Supreme Court of Judicature for Ontario, in and for the County of Perth, in the room and stead of John Elley Harding, Esquire, Q. C., resigned ; gazetted 22nd December.

CROWN ATTORNEYS AND CLERKS OF THE PEACE—James Francis Joseph Cashman, Esquire, to be District Crown Attorney and Clerk of the Peace, in and for the Provisional Judicial District of Manitoulin ; gazetted 13th January.

LOCAL REGISTRARS, ETC: Oliver Kelly Fraser, Esquire, Barrister-at-law, to be Local Registrar, Clerk of the County Court and Registrar of the Surrogate Court, in and for the United Counties of Leeds and Grenville, in the room and stead of Samuel Reynolds, Esquire, deceased ; gazetted 17th April. Joseph Beverley Dixon, Esquire, to be Local Registrar, Clerk of the County Court and Registrar of the Surrogate Court, in and for the County of Peel, in the room and stead of James Augustus Austin, Esquire, deceased ; gazetted 9th June. James Holmes, Esquire, to be Deputy Clerk of the Crown, Clerk of the County Court, and Registrar of the Surrogate Court, in and for the County of Kent, in the room and stead of William A. Campbell, Esquire, deceased ; gazetted 8th September. By the death of Robert O'Hara, Esquire, Deputy Registrar of the High Court of Justice for the County of Kent, Mr. Holmes has since become the Local Registrar for the said county. Matthew McKay, Esquire, to be Local Registrar, Clerk of the County Court, and Registrar of the Surrogate Court, in and for the County of Renfrew, in the room and stead of Archibald Thomson, Esquire ; gazetted 22nd December.

CORONERS—Wallace Arthur Scott of the Village of Courtright, in the County of Lambton, Esquire, M.D., to be an Associate Coroner within and for the said County of Lambton ; gazetted 14th April. James Benjamin Carruthers, of the Town of North Bay,

in the District of Nipissing, Esquire, M.D, to be an Associate Coroner within and for the said District of Nipissing; gazetted 21st April. Thomas James Moher, of the Town of Peterborough, in the County of Peterborough, Esquire, M.D, to be an Associate Coroner within and for the said County of Peterborough, in the room and stead of Robert William Bell, Esquire, M.D., resigned; gazetted 28th April. John A. Neff, of the Town of Ingersoll, in the County of Oxford, Esquire, M.D., to be an Associate Coroner within and for the County of Oxford; gazetted 14th July. Jeffrey Talbot Sutherland, of the Village of Leamington, in the County of Essex, Esquire, M.D., to be an Associate Coroner within and for the said County of Essex, in the room and stead of Charles Chamberlain, Esquire, M.D., deceased; gazetted 21st July. William Hamilton Nicholl, of the Village of Glanworth, in the County of Middlesex, Esquire, M.D., to be an Associate Coroner within and for the said County of Middlesex; gazetted 21st July. Frederick Thomas Bibby, of the Township of Collingwood, in the County of Grey, Esquire, M.D., to be an Associate Coroner within and for the said County of Grey; gazetted 11th August. Errett Sayers Hicks of the Village of Port Dover, in the County of Norfolk, Esquire, M.D., to be an Associate Coroner within and for the said County of Norfolk; gazetted 15th September. John Andrew Meldrum, of the Village of Belmont, in the County of Middlesex, Esquire, M D, to be an Associate Coroner, within and for the said County of Middlesex, in the room and stead of James B. Campbell, Esquire, M.D., deceased; gazetted 22nd December John Bryce McMurrich, of the Town of Bothwell, in the County of Kent, Esquire, M D., to be an Associate Coroner within and for the said County of Kent; gazetted 22nd December. James McQueen, of the Township of West Flamborough, in the County of Wentworth, Esquire, M.D, to be an Associate Coroner within and for the said County of Wentworth; gazetted 22nd December.

Police Magistrates: John Beattie, Esquire, to be Police Magistrate in and for the Town of Seaforth, in the County of Huron, without salary; gazetted 10th February. Peter Ellis, Esquire, to be Police Magistrate in and for the Town of Toronto Junction, in the County of York; gazetted 17th March Martin James Costello, Esquire, to be Police Magistrate in and for the Town of Hawkesbury, in the County of Prescott, without salary, in the room and stead of Thomas Ross, Esquire, resigned; gazetted 17th March. William Henry Spencer, Esquire, Police Magistrate for certain portions of the Districts of Muskoka and Parry Sound, to be Police Magistrate in and for the Town of Bracebridge, without salary; gazetted 24th March. Thomas Henry Race, Esquire, to be Police Magistrate in and for the Town of Mitchell, in the County of Perth, without salary; gazetted 4th August. John Miller, Esquire, to be Police Magistrate in and for the Town of Walkerton, in the County of Bruce, in the room and stead of Alexander Wesley Robb, Esquire, resigned; gazetted 8th September.

Sheriffs' Offices.

The business of the Sheriffs' offices continues to be most satisfactorily performed. Moneys are collected promptly and at once paid over. The income of the officers has been falling away for years past; during the past year there is a further decrease in many of the smaller counties, while in some of the larger the business has increased. Many of the Sheriffs are now in receipt of an income of less than one thousand dollars. They are generally the most poorly paid of all the officers in the public service, taking into consideration the importance and dignity of their office and the amount of security they are required to furnish for the proper performance of their duties.

In Appendix "A" I have set out, in tabulated form, the statistical returns made by the Sheriffs for the year 1900.

Local Masters.

The business of the offices of Local Masters has generally been promptly and expeditiously done during the past year. In a few cases only have I received any complaints, and these I was able to settle without much trouble. There has been no increase in the volume of business during the year.

In Appendix "B" is set out, in tabulated form, the statistical returns of the Local Masters for the year 1900.

Local Registrars, Deputy Clerks of the Crown and County Court Clerks.

The work of these officers has generally been satisfactory during the year. I have had, in a few instances, to complain of delay in the receipt of the annual returns. This delay has prevented the completion of my own report as speedily as it might have been done if the returns were made promptly at the time fixed by the statute. I do not understand the necessity for the delay in this regard. In the offices where the largest business is done the returns are made the most promptly; for instance, I received the complete returns from the County of Wentworth on the second day of January.

I have had a number of questions of practice to settle, as is the case every year My decisions in the more important of these are furnished to the President of the County Clerks' Association, and by him embodied in his report, so that in this way they reach and become a guide to all the officers. Last year I drew attention to the importance of the immediate payment into the Accountant's office of fees received for the Reporters Fund. I am sorry there is still complaint on this score. I have been obliged to call attention by letter to this duty in a number of cases. I fear I shall have to take personal charge of these returns so as to be able to take prompt steps at the close of each assize to get the returns made in every case where it has not been sent in.

Appendix "C" is a return of all the business in the offices of the Local Registrars, Deputy Registrars and Deputy Clerks of the Crown for the year 1900, and Appendix "D" is a tabulated return of the business done in the County Clerks' offices for the same period.

Surrogate Registrars.

The Surrogate Court business continues to increase. The work of the Registrars is generally well done, and in only a few cases have complaints been made. I would urge on the officers the importance of the utmost promptness. There have been only few cases of complaint in respect of charges. I have had to see in a few cases to the putting of proper law stamps on the proceedings when this was omitted by the officers.

In Appendix "E" I have set out the returns of the business of the Surrogate Courts for the year 1900.

General Remarks.

I have made several investigations during the year of complaints against Magistrates and Constables. Since my appointment to office my duties have been so enlarged by Statute and Orders-in-Council as to place under my inspection Stipendiary and Police Magistrates, Coroners, Justices of the Peace, Provincial Constables, and High Constables of Counties.

The amounts paid to the Provincial Treasurer under R. S. O. Chap. 18, by the following officers, have been as under:

Local Registrars, etc	$3,552 43
County Attorneys, etc	643 68
	$4,196 11

Where the bonds of officers have for any reason been unsatisfactory I have caused new securities to be given, and have furnished to the Hon. Provincial Treasurer a list of the officers with the names of their sureties.

In Schedule "F" I have set out a detailed statement of the fees and emoluments of the several officers, and to this table there are added columns showing the sources from which these officers derive their incomes.

I have the honour to be, sir,

Your obedient servant,

JAS. FLEMING.

Osgoode Hall, March 20th, 1901.

APPENDIX A.—Containing in tabulated form Statistics as returned

Counties or Districts.	Number of Services of writs of—								Total Services.
	Summons.		Subpœna.		Order for arrest		Miscellaneous process.		
	H.C.J.	C.C.	H.C J.	C.C.	H.C.J.	C.C.	H.C.J.	C.C.	
Algoma	8	1	2	13		1	6	4	35
Brant	8	5	7	38			3	1	62
Bruce	10	12	3	25	2	1	2	1	56
Carleton	100	57	22	42		1	62	18	302
Dufferin	1	6		2				1	10
Elgin	14	11	7	11			9	1	53
Essex	25	9	17	92	1		7		151
Frontenac	22	10	3	1	2		11	3	52
Grey	8	13	4	14	1		3	2	45
Haldimand	3	5	1	7					16
Halton	10	8	1	7			5	3	34
Hastings	24	10	10	58	1		12	6	121
Huron	34	23	4	15	1	1	14	1	93
Kent	23	15	22	51		2	13	4	130
Lambton	7	11	3	36		1	2	1	61
Lanrrk	11	7	2	18				1	39
Leeds and Grenville	23	19	14	2			9	8	75
Lennox and Addington	16	5					1	1	23
Lincoln	24	14	11	8	1		13		71
Manitoulin	1	10						3	14
Middlesex	7	17	8	46	3		6	7	94
Muskoka	7	1	9	90			1	2	110
Nipissing	7	5		7			2	1	22
Norfolk	4	6							10
Northumberland and Durham	18	9	3				9	2	41
Ontario	7	7	15	5		1	21	3	59
Oxford	16	7	22	51	1	2	4	5	108
Parry Sound	6	1	2	8		1			18
Peel	13	1	1	20			3		38
Perth	18	11	7	9			3	3	51
Peterborough	13	17	4	2			3	11	50
Prescott and Russell	11	6	1	9			4		31
Prince Edward	3	5	2	7			5	1	23
Rainy River	6	8	4	14			2	5	39
Renfrew	16	17	2						35
Simcoe	8	14	4	26	2	3	6	3	66
Stormont, Dundas & Glengarry	7	9	1	6	1				24
Thunder Bay	7	7		3			3	6	26
Victoria	9	11					2	2	24
Waterloo	22	6	5		1	2	2		38
Welland	11	4	3	14	3	2		2	39
Wellington	11	8	1	22		2	3	2	49
Wentworth	31	21	4	4			13	2	75
York	27	12	1	182	1		4	10	237
Toronto	106	60	18	4	1		23	12	224
Totals	763	521	250	969	22	20	291	138	2,974

by the different Sheriffs for the year ending 31st December, 1900.

Number of Estreats Received.		No. of Writs of Execution received.						From Division Courts.	No. of renewals of Writs of Execution received.			
		Against both lands and goods		Against lands only.		Against goods only.			Against both goods and lands		Against lands. only.	
H.C.J.	C.C.	H.C.J.	C.C.	H.C.J.	C.C.	H.C.J.	C.C.		H.C.J.	C.C.	H.C.J.	C.C.
.....	.....	6	7	.....	.....	.....	.....	3	7	9	2	7
.....	.....	2	7	.....	.....	.....	.....	12	2	2	.....	1
.....	....	9	10	.....	.....	.....	.....	15	8	5	2	1
1	....	49	33	.....	.....	.....	.....	25	3	6	2	.....
.....	1	1	3	.....	.....	.....	.....	5	3	3	.....	.....
.....	1	13	17	.....		.....	.....	18	.....	1	1	.....
.....	.....	21	16	.....	.....	.....	.....	25	.....	.....	.....	.....
.....	2	8	10	.....	.....	.....	1	9	6	1	.....	3
.....	.....	15	12	.....	.....	.....	.....	26	.....	1	1	1
.....	.....	2	6	.....	.....	.....	.....	7	.....	.....	.....	.....
.....	.....	12	8	.....	.....	.....	.....	6	.....	.....	.....	.....
.....	.....	21	14	1	.....	.....	.....	11	8	5	5	9
.....	.....	19	26	.....	.....	.....	.....	23	2	8	.....	.....
1	1	17	22	.....	.....	.....	.....	20	4	3	7	3
.....	.....	13	15	.....	.....	.....	1	25	1	3	4	10
.....	1	8	12	.....	.....	.....	.....	15	.....	3	.....	.....
.....	.....	12	13	.....	.....	.....	.....	17	2	4	.....	.....
.....	.....	16	7	.....	.....	.....	.....	7	.....	1	.....	.....
.....	.....	11	12	.....	.....	.....	.....	4	2	.....	.....	.....
.....	.....	.....	16	.....	.....	.....	1	6	.....	.....	.....	.....
.....	.....	21	16	.....	.....	.....	.....	17	1	3	.....	.....
.....	.....	8	2	.....	.....	.....	.....	6	2	.....	.....	1
.....	.....	8	5	.....	.....	.....	.....	1	.....	.....	.....	.....
.....	.....	3	6	.....	.....	.....	.....	12	.....	.....	.....	.....
.....	.....	12	20	.....	.....	1	.....	23	10	14	.....	4
.....	.....	7	9	.....	1	.....	.....	9	6	1	4	5
.....	.....	14	13	.....	.....	.....	.....	17	1	1	.....	.....
.....	.....	6	4	.....	.....	.....	.....	8	.....	2	2	.....
.....	.....	20	6	.....	.....	.....	.....	5	.....	.....	.....	.....
.....	.....	28	15	.....	.....	.....	.....	7	.....	.....	1	.....
.....	.....	11	7	.....	.....	.....	.....	9	2	8	.....	.....
.....	.....	4	6	.....	.....	.....	.....	8	.....	.....	.....	.....
.....	.....	6	5	.....	.....	.....	.....	8	1	3	.....	.....
.....	.....	19	53	.....	.....	.....	.....	5	.....	1	.....	.....
.....	.....	.....	15	7	.....	.....	.....	11	.....	.....	.....	.....
.....	1	12	21	1	.....	.....	.....	14	10	3	1	6
.....	.....	12	13	.....	.....	.....	.....	13	3	4	1	6
.....	.....	1	13	1	.....	.....	.....	4	4	2	4	3
.....	.....	8	6	.....	.....	.....	.....	20	15	6	1	4
.....	.....	15	5	.....	.....	.....	.....	9	.....	.....	.....	1
.....	.....	11	8	.....	.....	.....	.....	13	.....	.....	.....	1
.....	.....	8	8	.....	.....	.....	.....	13	1	2	.....	.....
.....	.....	26	22	.....	.....	.....	.....	18	14	17	6	7
.....	1	29	16	.....	.....	.....	1	13	8	7	25	8
.....	.....	116	82	.....	3	.....	1	17	68	23	100	49
2	8	660	642	10	4	1	5	559	194	152	169	130

APPENDIX A.—Containing in tabulated form Statistics as returned by the

Counties or Districts.	No. of Renewals of Writs, etc.—*Con.*			Other Writs of Execution received.				Number of Writs of	
	Against goods only.		From Division Courts.	Possession.		*Ca. Sa.*		Against goods.	
	H.C.J.	C.C.		H.C.J.	C.C.	H.C.J.	C.C.	H.C.J.	C.C.
Algoma			4	1				1	
Brant			6						
Bruce				1				1	1
Carleton			4	4	1				2
Dufferin			4						
Elgin	1		2	2	2			2	1
Essex				4	1				
Frontenac	2	3	2	2		1		1	
Grey			3			1	1	1	
Haldimand									1
Halton				1				1	1
Hastings	2	8		5	2				1
Huron			5				1		
Kent	2		2	3	3				1
Lambton	1	3	3	1	1			1	1
Lanark		1	2					4	
Leeds and Grenville				3					
Lennox and Addington				1				1	
Lincoln				1				2	1
Manitoulin									6
Middlesex			1	2	2		1		
Muskoka		2	2	1					
Nipissing				1	1				
Norfolk			2	2					
Northumberland and Durham		2	11	2				3	
Ontario			5				1	1	
Oxford				1					
Parry Sound			5						
Peel				5			1	1	
Perth	3		1		1			3	4
Peterborough			3	2					1
Prescott and Russell				1					2
Prince Edward				4			1		1
Rainy River								2	4
Renfrew									
Simcoe		1	18	2	1			2	3
Stormont, Dundas and Glengarry						1			
Thunder Bay				1					
Victoria			11		1				1
Waterloo			1	1	1		1		
Welland		1		3	1			2	
Wellington			1		1			2	
Wentworth	2		18	2		1		1	
York			10	9	2				1
Toronto	7	1	6	6	5			3	2
Totals	20	22	132	74	26	4	7	35	35

different Sheriffs for the year ending 31st December, 1900.—*Continued.*

Sales under execution.		From Division Courts.	Number of cases entered under Creditors' Relief Act.	Number of Certificates received under this Act.	Assignments to Sheriffs under R.S.O. 1897, c. 147.	Amounts Endorsed on Writs of Execution.				
Against lands.						For Debt or Damages.			For Taxed Costs.	
H.C.J.	C.C.					H.C.J.	C.C.	Div. Ct.	H. C. J.	C. C.
						$ c.	$ c.	$ c.	$ c.	$ c.
.....	2	.....	3	.....	....	3,812 27	2,383 04	152 71	211 16	134 54
.....	...	...	.....	.	....	3,178 46	1,361 04	1,187 41	74 69	185 44
.....	.....	2	1	3	2	7,549 70	1,850 04	44 90	353 46	193 50
.....	.....	2	4	5	....	74,613 08	8,262 23	1,804 69	2,036 11	527 63
.....	.....	.....	...	.....	.	1,139 00	543 07	432 71	305 68	52 32
.....	.....	.....	3	.....	....	10,92 52	3,768 35	1,788 84	910 56	383 07
.....	...	....	.....	....	.....	7,951 64	3,205 87	2,448 03	1,743 28	416 11
.....	.....	1	1	13	.....	7,368 25	1,933 77	629 47	254 19	137 82
.....	.....	.....	....	....	.....	7,510 93	1,611 91	2,267 66	1,074 55	486 56
.....	.....	.....	1	1	.....	1,277 35	1,145 74	285 08	36 07	131 69
.....	....	....	.....	.....	.....	11,137 46	1,672 24	754 76	1,390 00	145 17
3	.....	.....	3	32	4	157,025 99	5,469 37	1,200 79	1,449 27	460 97
1	.....	.. ..	1	.....	2	18,633 41	6,052 69	1,968 08	300 55	710 83
.....	.....	1	....	... .	.....	17,791 82	5,537 88	2,301 70	2,145 93	1,012 42
1	.....	.....	2	1	.....	7,094 93	3,226 85	2,139 44	2,480 49	556 35
.....	.....	.....	2	5	.....	24,691 36	3,444 00	1,510 28	242 78	450 29
1	.....	1	2	.....	6	42,173 96	5,184 72	1,759 31	1,177 46	525 81
.. ....	.....	.....	.....	....	2	14,807 09	1,519 16	721 27	2,057 77	235 98
.....	.....	.....	3	.....	.....	15,256 74	2,246 75	413 94	724 44	646 83
.....	.....	.....	.....	.....	.....	....	2,762 91	702 83	....	452 94
.....	1	1	.....	.....	3	18,877 62	2,502 32	1,906 04	1,335 48	296 84
.....	.....	.....	....	.....	.....	1,506 73	377 22	575 78	778 18	37 23
.....	.....	1	..	....	.....	4,792 96	1,299 11	102 17	302 00	62 83
.....	.....	..	.....	.....	.....	3,863 19	1,094 79	.....	49 90	110 77
. .....	1	.....	2	.....	.....	16,478 54	4,683 00	2,206 80	1,537 21	612 73
.....	.....	.....	2	2	.....	5,465 11	3,324 41	865 85	203 84	296 60
.....	.....	1	.... .	.....	1	11,032 53	2,932 38	1,854 56	1,406 69	474 27
.....	.....	.....	.....	.... .	.....	8 193 00	640 00	910 00	416 00	115 00
.....	.....	.....	1	1	.....	25,702 16	1,555 17	542 02	2,627 09	383 02
1	.....	.....	9	.....	.....	20,191 77	3,017 84	937 89	2,270 16	201 41
.....	.....	.....	1	.....	...	7,129 04	1,450 80	1,522 97	576 20	217 80
1	.....	.....	3	.....	1	6,057 88	1,082 63	949 44	32 25	127 61
.....	.....	.....	1	4	.....	3,098 24	2,137 08	740 83	792 81	136 41
.....	.....	1	1	6	.....	31,961 69	22,842 75	636 30	1,731 09	2,259 55
1	.....	.....	1	.....	1	6,701 11	4,515 62	1,296 96	152 07	434 57
.....	.....	.....	1	5	..	23,921 56	6,670 07	1,450 17	1,340 72	530 66
1	.....	.. ..	1	7	1	24,708 99	2,836 47	1,074 36	373 88	424 72
....	2	.....	2	10	.....	1,030 37	3,606 28	578 25	29 22	258 18
.....	.....	.....	.....	.....	.....	15,481 43	1,752 60	1,993 18	706 01	142 18
.....	1	.....	3	... ..	.....	8 029 87	2,068 84	845 58	985 54	318 55
.....	.....	1	3	.....	.....	7 358 75	1,352 65	.....	466 75	61 91
.....	.....	.....	5	6	2	9,184 20	1,076 64	1,505 60	469 91	314 73
.....	.....	1	.....	2	.....	31,502 49	6,334 48	1,628 10	1,830 87	856 77
.....	.....	.....	1	5	1	102,290 40	7,074 20	.....	947 12	238 92
.....	1	.....	3	14	.....	237,777 43	21,173 35	....	7,457 45	2,464 55
10	8	13	66	122	26	1,066,272 02	170,582 33	48,646 75	47,789 88	19,223 58

APPENDIX A.—Containing in tabulated form Statistics as returned by the

Counties or Districts.	From Division Courts.	Amount realized by actual Sales under Execution.				On Division Court Writs.
		Against goods.		Against lands.		
		H.C.J.	C.C.	H.C.J.	C.C.	
	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
Algoma	13 17	86 93			254 74	
Brant	121 58					
Bruce		400 00	139 00			120 00
Carleton	133 18		285 45			62 00
Dufferin	27 26					
Elgin		284 98	63 00			
Essex						
Frontenac	74 42	1,269 69				80 00
Grey	177 08	215 22				
Haldimand	22 61		199 15			
Halton	21 12	709 75	115 00			
Hastings	104 41		157 60	1,599 00		
Huron	160 51			160 00		
Kent	216 04	26 74				
Lambton	184 09	64 16	263 71	264 41		
Lanark	90 14	1,175 99				
Leeds and Grenville	119 42					88 00
Lennox and Addington	16 98	313 50				
Lincoln	19 43	506 82	25 00			
Manitoulin	52 67		1,001 01			
Middlesex	211 54					87 94
Muskoka	37 18					
Nipissing						
Norfolk						
Northumberland and Durham	247 63	1,060 58			17 68	
Ontario	66 66	47 79				
Oxford	138 52					35 00
Parry Sound	43 00					
Peel	43 62	1,245 02				
Perth	50 83	1,483 47	116 57	500 00		
Peterborough	61 36		122 12			
Prescott and Russell	16 65		290 75	10 00		
Prince Edward	27 02		400 00			
Rainy River	71 07	3,130 00	1,509 00			75 00
Renfrew	38 42		284 35			
Simcoe	99 18	104 00	486 08			
Stormont, Dundas and Glengarry	20 01			940 00		
Thunder Bay	20 58				425 00	
Victoria	123 25		226 95			
Waterloo	22 18				50 00	
Welland		421 30				118 00
Wellington	128 75	703 27				
Wentworth	133 89	238 30				5 00
York		1,484 87				
Toronto		3,713 13	861 29		25 00	
Totals	3,155 45	18,685 52	6,546 03	3,473 41	772 42	670 94

different Sheriffs for the year ending 31st December, 1900.—*Concluded.*

Amounts realized on Execution without Sales.			Amount Received for Fines, Penalties, etc.		Amount realized under Writs of *Ca Sa.*	
H.C.J.	C.C.	Div. C.	H.C.J.	C.C.	H.C.J.	C.C.
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.
		132 96				
	21 58	106 78				
240 83	759 99				175 00	
374 49	1,388 65	96 00				
		167 00				
	404 76	111 99				
166 28	166 25					
1,345 59	408 37	203 93				
	348 87					
	153 20					
100 00	38 00					
2,003 04	229 50	168 26				
427 36	901 39	268 60	500 00			
	405 67	204 22				
	181 27		255 00			
455 70	926 30	61 30				
	108 82					
1,330 27	376 12					
1,514 91	208 95	84 53		390 00		
460 87	426 40	200 36				
		110 00				
	20 88					
	302 54					
	332 25					
211 01	25 77	54 00				
	5 00	76 48				487 22
141 70	910 07					
	75 86					
116 34		153 00				
362 12						
135 38						
	2,630 47					
325 81	440 03	180 14		5 00		
26 34	239 59	228 10			559 85	
	940 51					
30 98	74 27	436 16				
180 00	144 51	81 70		20 00		
841 62	866 92					
459 40	38 20	56 69				
998 40	305 26					
332 12	132 26			475 00		
1,281 87	1,178 35	113 00				
13,862 43	16,119 83	3,295 20	755 00	890 00	734 85	487 22

APPENDIX B.—Being a Return of Business transacted by Local Masters throughout the

County or District.	Number of Orders made for the following purposes:					Examinations taken as special examiner or otherwise before trial.
	For administration of estate.	For partition or sale of property.	Respecting Infants under R.S.O. c. 137, s. 3. (Examination only)	Under Winding-up Acts.	Other orders made in chambers.	
	(1)	(2)	(3)	(4)	(5)	(6)
Algoma		4				
Brant						
Bruce					1	17
Carleton	1	1			70	55
Dufferin		1			9	
Elgin	2					29
Essex		1				21
Frontenac	1	1				6
Grey	1	2			34	6
Haldimand	1				2	
Halton						
Hastings	1				40	22
Huron					2	
Kent						
Lambton		2			27	7
Lanark						
Leeds and Grenville	4	2			56	
Lennox and Addington	2	1			4	
Lincoln	2					5
Manitoulin						
Middlesex	1					53
Muskoka						
Nipissing		1				
Norfolk	1	1				
Northumberland and Durham	1	1			9	3
Ontario			1			
Oxford	3	2				27
Parry Sound					2	
Peel		1			16	1
Perth	3	1	3		17	8
Peterborough	1				31	
Prescott and Russell		1			2	2
Prince Edward	2	2				1
Rainy River		4			6	5
Renfrew					1	
Simcoe	1	3			26	42
Stormont, Dundas and Glengarry	1	1			17	
Thunder Bay		1			21	
Victoria					15	
Waterloo	1					
Welland					1	
Wellington	2	2			32	29
Wentworth	5	2			53	
Totals	37	38	4		494	339

Province of Ontario during the year ending 31st December, 1900

Number of judgments or orders brought into the Masters' Office for taking the following accounts, etc.

Administration of estates. (7)	Executors, trustees or committees' accounts and compensation. (8)	Foreclosure of mortgage or bond. (9)	Redemption of mortgage or bond. (10)	Sale under mortgage or agreement. (11)	Account on any charge or liens on land other than mechanics' liens. (12)	Account under Mechanics' Lien Act. (13)	Specific performance. (14)	Partnership accounts. (15)	Alimony. (16)	Partition or sale. (17)	Damages for breach of contract or covenant. (18)
		4									
2	1	1								1	
								1			
2	1	9		2		13		2		1	2
										1	
1		1					1				
		4	1							1	
2		2		1						1	
2	1	1			2					1	
	1										
						1				1	
2	2	1		3				1			
	2	2		1	4		1				
		1						1	1	2	
				1							
4		3		1						2	
2				1						1	
2		5				2				1	
2	2	2		1	1					1	
					1	1				1	
										1	
1		1		1						1	
1	1									1	
4		1	1							4	
1				3	1			1		1	
12		3	1	5					1	1	
1	1	2		2							
1	1	1		1							
				1						2	
		1		5		20		2			
	1										
3		1	1								
1		2		2				1			
										1	
		1				2					
1	2	1									
3		1		1	1			1		2	
6	1	10				b		1		4	
56	17	61	4	32	10	44	2	11	2	33	2

APPENDIX B —Being a Return of Business transacted by Local

County or District.	Number of Judgments or Orders, etc.—*Con-*						
	Work and labor done. (19)	Money received, paid, advanced or lent. (20)	Goods sold and delivered. (21)	Promissory notes and bills of exchange. (22)	Bonds, life and fire insurance. (23)	Infants' estates. (24)	Quieting title matters. (25)
Algoma							
Brant							
Bruce	1						
Carleton		1					
Dufferin							
Elgin							
Essex							
Frontenac							
Grey			1				
Haldimand							
Halton							
Hastings							2
Huron							1
Kent							
Lambton							
Lanark							
Leeds and Grenville							
Lennox and Addington							
Lincoln							1
Manitoulin							
Middlesex	1						2
Muskoka							
Nipissing							
Norfolk							
Northumberland and Durham		1					
Ontario						1	
Oxford							
Parry Sound							
Peel		1					
Perth					1	3	
Peterborough		1					
Prescott and Russell							1
Prince Edward							
Rainy River	2						
Renfrew							
Simcoe			1				1
Stormont, Dundas and Glengarry	1	1					
Thunder Bay							
Victoria							
Waterloo							
Welland							
Wellington							
Wentworth						1	
Totals	5	5	2		1	5	8

Masters throughout the Province of Ontario, etc —*Concluded*

tinued.									
Lunacy.	Miscellaneous.	Advertisements of sale issued.	Reports issued.	References pending at date of return.	Bill of costs taxed by Master.	Amount realized by sales held under direction of Master.	Amount of costs of reference or taxed by Master or under his direction.	Amount of commission allowed in administration and partition matters	Amount of fees earned by Local Masters.
(26)	(27)	(28)	(29)	(30)	(31)	(32)	(33)	(34)	(35)
						$ c	$ c.	$ c	$ c.
									55 00
1			3	3	1		36 50	251 13	50 60
	1		2	1					92 40
1	5	7	31	10	30	61,922 90	5,647 46	418 19	2,091 90
		1		2	1		125 00		21 88
2	1	6	14	6	7	16,149 49	482 24	650 38	1,086 54
1	3	2	17	6	10	2,450 00	333 63	287 00	507 79
1		1	5	2	5	15,345 00	222 98	587 12	337 70
	1	5	13	4	15	2,730 00	847 45	272 50	312 62
2		1	4			980 00	196 77	234 30	122 10
		2	1	1		5,700 00			
5	8	1	15	12	18	1,835 00	4,114 95		1,009 80
		1	11	7	9	7,447 10	582 69	731 41	330 60
1		2	4		4	7,800 00	769 50	437 50	208 50
		1		3	2	1,020 00	156 71		10 18
1		8	29	7	28	32,246 50	1,588 82	1,615 11	529 28
	2	3	6	2	7	3,620 00	1,044 87	440 17	292 00
		2	6	3	8	338 40	862 28	148 08	498 51
2	1	2	14	10	9	12,226 00	1,043 80	717 49	725 42
			1	1					19 60
			1					223 34	30 18
		4	10	2	10	7,860 00	1,200 33	302 00	313 12
1		1	2		1	810 00	108 83		56 75
1		3	11	3	6	9,725 00	822 78	833 39	958 55
1		4	8	4	4	3,180 00	383 16		190 00
3		10	12	18	12	10,924 50	749 90	113 12	441 00
		3	1	3	1	843 75	68 89		257 00
1		1	3		3	2.000 00	286 97	73 67	52 55
		3	4	1	2	1,695 00	168 51	113 50	78 10
		5	10	1	14	400 00	1,100 00		253 50
			1		1		27 93	172 88	5 63
2			6	3	10		936 00	1,435 24	323 21
		5	13	5	8	3,841 00	912 27	112 50	530 00
				2					63 80
1			4	3	4	456 33			52 80
		8	1	9			913 16	417 20	265 36
1	1	2	2	1		2,800 00			71 00
2		5	9	7	12	11,000 00	732 46	785 12	654 03
1	4	5	30	16	32	29,762 94	1,988 07	2,854 01	618 90
31	27	104	304	158	274	257,108 91	28,454 91	14,226 35	13,517 90

APPENDIX C.—A return of all business transacted by Local Registrars, Deputy

County or district.	Writs of summons issued.	Orders for arrest issued.	Actions entered in Procedure Book.	*Lis pendens* issued.	*Præcipe* orders issued.	Orders issued and signed by local judge.	Examinations of parties returned.	Actions entered for trial.	
								By jury.	Without jury.
Algoma	31	.....	36	11	...	..	10	3	8
Brant	50	.....	45	2	23	17	8	5	15
Bruce	54		38	4	24	29	21	4	10
Carleton	190	.....	203	12	116	56	81	14	36
Dufferin	27	.....	22	....	8	....	2	1	1
Elgin	154	..	129	24	60	34	24	19	14
Essex	77	1	75	8	49	54	26	8	10
Frontenac	97	. ..	82	7	38	56	23	5	17
Grey	67	.... .	46	8	21	3	23	15	13
Haldimand	17	.....	12	1	5	6	3	3	3
Halton	17	.....	21	...	12	3	1	5	6
Hastings	111	..	89	11	60	14	12	16	20
Huron	85	.....	71	5	36	27	11	5	18
Kent	64	... .	63	7	32	75	64	7	17
Lambton	66	.....	51	8	23	23	38	8	12
Lanark	35	.....	30	2	15	28	13	6	3
Leeds and Grenville	56	.....	52	4	22	2	28	4	12
Lennox and Addington	36	.....	38	4	13	14	17	6	3
Lincoln	36	.....	33	3	23	40	6	6	6
Manitoulin	2	...	2	.....	...	1	.....	1	.....
Middlesex	186	2	126	12	89	66	16	20	40
Muskoka	15	.. .	16	.... .	11	13	15	4	4
Nipissing	29	.....	21	4	11	9	2	2	7
Norfolk	26	.....	18	.....	11	3	7	4	2
Northumberland and Durham	43	.. ...	24	4	15	13	6	10	5
Ontario	21	.....	20	2	6	10	8	4	4
Oxford	64	.....	55	6	50	28	47	16	13
Parry Sound	5	.....	10	1	5	3	.....	2	2
Peel	30	.....	26	3	15	10	13	5	3
Perth	109		99	15	76	82	47	16	27
Peterborough	69	.....	54	3	26	4	12	8	7
Prescott and Russell	8	.....	13	2	6	5	4	1	.....
Prince Edward	11	.....	10	1	33	8	3	.....	1
Rainy River	73	.....	68	....	48	62	23	3	15
Renfrew	35	.....	32	2	8	....	3	4	5
Simcoe	79	.....	55	10	34	29	53	4	16
Stormont, Dundas and Glengarry	87	1	75	3	23	35	2	6	10
Thunder Bay	30	.... .	23	6	20	21	20	4	11
Victoria	31	...	25	4	8	6	7	1	2
Waterloo	41	1	36	2	8	14	26	7	6
Welland	45	1	39	7	30	5	17	6	9
Wellington	63	.....	44	9	20	3	15	10	6
Wentworth	258	.....	242	13	139	117	64	31	52
Totals	2,630	6	2,279	230	1,272	1,028	821	309	471

Registrars and Deputy Clerks of the Crown for the year ending 31st December, 1900

Judgements entered without trial.	Amount of such judgements, without costs.	Amount of costs taxed thereunder.	Amount of disbursements allowed.	Judgements entered after trial.	Amount of such judgements, without costs.	Amount of costs taxed thereunder.	Amount of disbursements allowed.	Number of judgements for over $10,000.	Number over $5,000, under $10,000.	Number over $2,000, under $5,000.
	$ c.	$ c.	$ c.		$ c.	$ c.	$ c.			
1	3,007 85	43 55	10 20	3	132 25	32 00	....	....	....	1
6	6,733 03	76 55	20 47	8	5,389 71	692 51	193 80	....	....	1
4	3,188 56	129 77	53 32	6	3,863 32	303 46	105 37	....	....	1
74	137,721 56	3,026 66	948 64	59	46,368 28	6,099 43	1,900 67	2	5	24
4	2,828 16	164 90	160 14	2	.. ....	136 00	5 06	....	...	1
12	27,864 49	427 50	129 69	20	3,178 75	2,166 87	749 31	...	....	2
25	19,273 87	904 64	225 42	19	5,604 43	1,885 54	986 78	....	....	3
22	21,556 99	660 17	173 38	9	8,313 07	866 45	229 68	....	....	4
4	640 88	137 38	38 30	7	3,625 00	728 43	323 31	....	....	....
4	2,709 62	74 70	23 27	3	1,462 41	173 35	43 16		....	....
5	2,291 75	85 00	24 51	2	1,354 00	103 88	135 35	....	....	....
18	21,431 75	473 56	124 29	20	6,249 71	2,190 27	1,049 05	....	2	2
17	12,140 83	1,217 82	455 21	13	3,101 04	1,465 53	971 82	....	....	2
14	10,589 44	354 94	86 02	8	3,939 32	1,379 01	468 10	...	....	....
7	2,263 34	464 28	146 20	12	9,795 72	2,414 93	756 60	....	1	1
9	8,299 73	367 52	79 46	1	3,000 00	219 33	202 74	....	6	1
10	10,738 57	711 16	320 68	6	1,192 87	1,110 86	385 12	..	...	2
13	8,378 24	370 63	111 55	8	276 00	1,063 99	415 93	....		2
3	1,489 07	115 43	26 02	6	1,900 00	2,156 28	957 96	....	....	....
. ....	.....	....	.....	..	..	.....	..	..	....	....
41	32,982 57	638 26	159 99	35	18,252 88	1,721 65	908 97	...	2	6
3	3,324 47	846 19	373 17	2	35 00	515 83	306 23	....	...	....
5	1,511 17	161 16	22 62	9	1,157 71	312 52	155 05	..	....	....
5	1,150 86	102 29	26 55	1	... .	131 52	41 16	..	....	....
7	3,624 46	268 40	81 91	9	1,268 71	819 27	125 93	..	....	....
7	6,094 66	212 92	94 11	2	101 00	.....	.....	...	....	1
6	5,652 20	302 58	67 37	21	5,453 29	906 22	532 78	...	....	1
1	151 47	33 28	15 13	2	.. ....	338 30	.....	..	....	....
4	14,720 96	189 87	54 96	2	100 00	127 06	.....	...	2	2
22	21,202 93	515 20	177 02	26	9,290 76	3,946 72	1,986 60	..	1	2
21	17,629 98	670 87	185 19	12	16,584 30	695 31	328 73	1	....	3
5	5,886 27	65 07	22 37	1	150 00	54 59	24 64	...	....	1
5	2,558 18	176 33	42 43	4	115 85	722 03	513 27	....	....	....
7	25,692 40	243 92	49 66	7	4,854 67	755 17	189 00	1	...	1
9	21,370 19	388 62	157 97	7	5,650 00	635 70	403 14	1	....	2
18	9,959 86	538 91	166 09	3	1,253 30	623 87	251 50	....		....
18	17,858 19	317 60	120 41	13	127,596 35	1,715 90	1,069 47	1	2	3
6	17,360 03	419 20	142 45	5	3,871 94	342 21	201 01	1	..	2
5	1,535 23	90 26	22 26	1	152 91	79 71	.....	....	...	....
9	9,964 69	437 07	108 15	7	2,983 60	1,251 81	510 19	..	...	2
6	6,604 46	87 98	22 57	12	1,435 92	630 68	225 17	...	....	1
8	12,684 90	230 75	44 39	5	25 00	69 22	60 66	....	....	2
69	118,750 40	2,673 85	916 62	40	43,009 33	4,930 93	2,405 20	4	4	12
539	661,419 26	19,416 74	6,230 16	438	352,088 40	46,514 34	20,118 51	11	25	88

APPENDIX C.—A return of all business transacted by Local Registrars,

County or district.	Number over $1,000, under $2,000.	Number over $100, under $1,000.	Number $400 and under.	Judgements for reference to Masters.	Writs of execution against goods only.	Writs of execution against lands only.	Writs of execution against goods and lands.	Number of writs of Ca. Sa. issued.	Number of certificates under Creditors' Relief Act.
Algoma			3			1	3		
Brant	3	4	3	1			7		
Bruce	2	2	1	1			6		
Carleton	16	31	51	16		2	38		
Dufferin			5						
Elgin	3	6	18	2			16		
Essex	8	8	3	8			9		
Frontenac	7	7	2	3			21	1	
Grey	1	2	8	7			10		
Haldimand	1	3	3				1		
Halton	1	5	1	3			6		4
Hastings	2	9	6	7			18		
Huron	4	9	15	6	1		8		
Kent	4	11	1	2			11		
Lambton	2	4	9	2			4		
Lanark	2	1					4		
Leeds and Grenville	1	8	3	12			9		
Lennox and Addington		3	10	6			15		
Lincoln			3	3	3		3		
Manitoulin									
Middlesex	12	13	10	15	1		6		
Muskoka	1	2	2				7		
Nipissing		4	9	1		1	3		
Norfolk		2	4	1			3		
Northumberland and Durham	1	7	4	4			2		
Ontario	1	2	2	1	1	1	5		
Oxford	3	7	16	7			10		
Parry Sound			1	1					
Peel			1	1		1	8		1
Perth	6	6	33	4			35		
Peterborough	2	5	13	8			8		
Prescott and Russell		1		1			1		
Prince Edward	1	1	6	1			4		5
Rainy River	5	3	4	5			15		
Renfrew	3	3	2				5		
Simcoe	5	7	5	5			9		
Stormont, Dundas and Glengarry	4	4	17	4			10	1	
Thunder Bay		1	7	1		1	3		
Victoria		3	3	1	1	1	4		
Waterloo	1	2	4	1			12		
Welland		5	11	1	1	1	5		
Wellington	1	5	1	6			5		
Wentworth	12	20	32	16			40		
Totals	115	216	332	164	8	9	389	2	10

Deputy Registrars and Deputy Clerks of Crown, etc —*Concluded.*

Amount for which issued, without costs.	Amount of costs allowed thereunder.	Amount of money paid into court defence.	Amount of money paid out of court.	Number of days' sitting of Judge with jury.	Number of days' sitting of Judge without jury.	Number of estreats ordered to be issued.	Number of estreats issued.	Amount of jury fees paid County Treasurer.	Fees collected in law stamps by Deputy Clerks and Local Registrars.	Fees collected in law stamps by Deputy Registrars.
$ c.	$ c.	$ c.	$ c.					$ c.	$ c.	$ c.
.....	....	585 00	.....	3	6	...	..	9 00	159 10	..... .
.....	.....	2,897 30	.....	4	6	.....	.....	15 00	207 60	....
.....	.....	.....	... .	6	3	....	.....	12 00	324 62	.....
.....	.....	1,514 87	.....	10	14	.....	.....	42 00	703 35	240 20
.....	.....	....	.....	2	.....	.....	.....	3 00	79 50	.....
.... ..	.....	....	....	5	3	.....	.....	57 00	527 20	.....
.....	.....	2,495 00	. ....	6	3	.	..	24 00	182 40	52 50
.....	.....	200 00	.. ....	6	3	..	.....	15 00	523 50	.....
.....	.. ..	841 70	.....	6	4	1	.....	45 00	503 30	.....
..	.....	25 00	.....	1	.....	.....	.....	9 00	80 00	.....
4,326 91	28 00	37 50	....	1	2	.....	.....	15 00	118 50	.. ..
.....	...	1,500 00	.....	10	4	....	.....	39 00	125 30	404 10
.....	.....	.....	.....	9	2	...	..	15 00	289 80	. ....
.....	.....	1,731 91	....	9	3	1	1	18 00	305 70	.....
.....	.....	.....	.. ....	6	2	.....	.....	24 00	305 00	.....
.....	..	150 00	.....	....	6	.....	.....	18 00	213 40	....
.....	... ..	10 79	10 79	4	4		...	9 00	315 38	..... .
.....	. . .	500 00	.....	5		....	.....	18 00	226 40	.....
.....	.....	26 00	. .....	6	..	.	....	18 00	82 70	56 60
.....	..	....	....	1	.	... ..	..	3 00	6 50	... .
..... .	.....	... . ..	.....	23	5	.....	.....	60 00	270 40	207 10
....	.	....	.....	2	..		.....	12 00	90 00	... ...
....	.....	....	....	2		..	.....	6 00	104 90	....
.....	.....	.....	....	4	2	....	...	12 00	81 10	.....
. .....	... ..	.....	....	11	5	.....	..	30 00	535 50	....
.....	.....	.. ..	.....	4	2	....	.	12 00	103 60	....
.....	.....	... .	.. . .	10	3	....	....	48 00	267 00	53 80
.....	.....	... .	.....	2	1	.....	...	.....	39 60	....
51 17	.....	.....	....	6	..	....	..	12 00	157 80	....
.....	.....		.....	15	10	....	...	45 00	748 45	....
.....	.....	2,978 91	.....	10	1	....	...	18 00	326 60	....
.....	.....	.....	....	...	3	....	....	....	63 40	..... .
688 12	15 75	650 00	....	4	..	...	.	.....	113 70	... .
.....	.. ...	... .	.....	7		....	.. ..	....	344 00	.....
.....	.....	.....	....	5	..		.....	18 09	168 50	.... .
.....	. .	.....	... ..	2	9	.....	...	12 00	124 20	77 80
.....	... .	75 00	... .	6	4	...	...	27 00	399 30	....
.....	....	275 00	... .	1	8	.....	.....	12 00	166 80	.....
.....	....	....	.....	3	4	....	.. ..	3 00	74 85	.....
.....	..	.....	.....	3	2		.....	21 00	179 10	. ....
.....	.....	....	.....	6	...	...	....	18 00	205 00	.....
.....	.	. ... ..	.....	7	2	... ..	....	30 00	260 70	.....
.....	.....	.....	.... ..	25	3	1	.....	93 00	835 20	692 11
5,066 20	43 75	16,493 98	10 79	265	129	3	1	897 09	10,878 75	1,784 21

APPENDIX D—Being a return of business transacted by County Court Clerks

County or District.	Writs of Summons issued.	Orders for arrest issued.	Actions entered in Procedure Book.	*Lis pendens* issued.	*Præcipe* orders issued.	Orders issued and signed by Local Judge.	Examination of parties.	Actions entered for trial.		Judgement entered without trial.
								By jury.	Without jury.	
Algoma	27	1	20	1			4	3		5
Brant	35		33		18	10	4	5	5	9
Bruce	29		23	1	8	25		2	4	9
Carleton	116		86		40	21	29	7	12	37
Dufferin	7		4	1	2	5	3		1	
Elgin	46		40	1	16	26	9	3	8	7
Essex	26	1	21	2	14	10	4	10	2	8
Frontenac	32		31		13	9	10	3	3	12
Grey	25	1	17	2	5		8	5	2	3
Haldimand	11		7		2		2	1	1	4
Halton	8		6		2	1			1	3
Hastings	40		38		13	14	10	8	4	8
Huron	54		46	1	11	21	5	2	8	22
Kent	27	1	24		16	18	11		7	16
Lambton	28	1	26		3	12	11		4	9
Lanark	22		19		9	10	3	1	2	6
Leeds and Grenville	31		21		4	7	7		3	6
Lennox and Addington	11		11		3	12	4	2	1	5
Lincoln	17		12	1	1	13	3		1	6
Manitoulin	32	2	29	8	5	26	3	1	5	4
Middlesex	165	4	107		57	44	17	5	9	41
Muskoka	6		6		5	5	4		3	
Nipissing	19		11		4	10		2	2	2
Norfolk	10		9		2	6	2	2		2
Northumberland and Durham	36		19	1	14	14	2	5	6	10
Ontario	15		9			14	3			6
Oxford	23	2	26		8	27	17	6	2	9
Parry Sound	7		6		2				3	
Peel	12	1	9		9	6	5	2	3	2
Perth	34	1	25	1	17	13	15	6	2	10
Peterborough	40		24		3	1	5	7	1	16
Prescott and Russell	8		8		4		3	1	2	2
Prince Edward	10		7		12	10				2
Rainy River	91		83		42	83	30	7	26	28
Renfrew	28		32	1	10		3		7	14
Simcoe	43		17	1	11		12	3	1	16
Stormont, Dundas and Glengarry	39		32		18	17	2	2	10	15
Thunder Bay	37		35	5	16	31	9	2	4	9
Victoria	21		21		5	7	5	4	1	3
Waterloo	43	2	34		4	18	13	3	5	15
Welland	10	2	7		6	5	3	1	4	2
Wellington	24		20	1	8	19	3	2	1	5
Wentworth	112		92	1	50	55	23	17	23	35
York	491	1	378	2	165	342	35	35	57	174
Totals	1,948	20	1,531	31	657	937	341	165	246	597

throughout the Province of Ontario during the year ending 31st December, 1900

Total amount of such judgements without costs.	Total costs taxed thereunder.	Total Disbursements allowed.	Judgements entered after trial.	Total amount of such judgements without costs.	Total costs taxed thereunder.	Total Disbursements allowed.	Total number of judgements.	Number of Executions against goods and lands.	Number of Writs of *Ca. Sa.* issued.	Number of Certificates issued under Creditors' Relief Act.
$ c.	$ c.	$ c.		$ c.	$ c.	$ c.				
1,658 27	130 68	26 75	1	110 16	193 16	169 77	6	2	....	.....
2,432 04	129 86	38 77	4	775 00	337 50	188 25	14	14	....	.....
1,798 58	200 01	39 82	1	.... ..	167 89	34 93	9	6	....	1
10,266 67	658 23	195 43	13	842 17	1,046 77	569 95	50	30	....	.....
....	19 10	2 76	2	....	136 45	123 78	3	.....	.....	.....
1,700 40	65 00	14 36	7	459 78	1,172 00	373 60	14	10	....	.....
1,967 30	142 68	33 30	7	948 88	372 40	122 71	13	6	.... ..	.. ..
2,278 22	193 17	43 46	1	200 00	138 99	52 24	12	8	....	13
575 40	45 94	10 51	3	263 70	330 09	210 04	6	12	....	.. ..
575 70	74 17	16 65	0	.....	....	....	4	1	....	.....
863 99	28 50	10 15	1	.. ..	89 15	48 04	3	7	....	.....
1,990 39	115 92	35 94	7	1,071 31	260 31	106 15	15	7	....	32
5,860 69	476 87	160 74	4	811 51	391 81	225 20	26	19	1	.....
4,437 84	339 92	113 77	7	929 35	565 58	261 54	23	14	....	.....
2,659 40	178 86	43 28	3	116 45	319 83	49 96	12	8	....	1
1,748 51	84 81	26 48	1	200 00	129 86	58 76	6	7	....	....
2,172 42	113 58	24 22	3	20 40	370 29	192 49	7	4	.. ..	.....
875 13	55 59	15 79	1	72 55	152 53	57 70	6	9	....	.....
1,329 94	104 93	29 80	1	347 50	.. ....	....	7	6	....	.....
531 89	770 04	22 61	2	350 35	102 73	39 94	2	11	....	.....
9,633 50	782 60	234 17	4	510 45	333 50	141 03	45	27	1	.....
	125 50	69 30	2	.....	147 75	54 30	...	.. ..	....	.. ....
494 00	25 33	4 58	2	25 00	170 06	95 58	4	1	...	.....
654 80	26 93	5 93	2	....	118 35	41 55	2	2	....	
2,822 53	183 13	41 21	5	680 16	627 78	371 95	15	8	....	.....
1,921 56	103 80	56 02	.....	....	.... ..	... .	6	11	....	2
2,349 63	215 88	42 61	4	1,104 85	354 13	169 50	13	9	....	.....
.....	.... ..	.....	1	199 80	124 35	32 35	1	...	...	.. ..
356 93	35 36	11 91	2	281 27	189 95	115 78	2	2	1	.....
2,469 38	214 23	43 87	7	732 22	885 45	495 77	17	12	....	.....
3,520 03	339 68	131 07	2	477 38	216 92	117 44	18	6	....	.....
558 64	16 52	3 61	1	333 85	... .	. .....	2	2	....	.....
584 90	268 54	136 38	.. ....	..	.....	.....	.....	2	....	.....
8,799 28	528 78	111 69	11	3,077 90	779 92	341 30	39	30	....	.....
3,881 89	213 10	60 75	8	1,099 13	539 74	351 29	19	11	....	. ....
4,768 71	333 91	105 53	4	472 20	589 98	355 18	20	15	....	....
2,506 24	243 23	94 31	6	505 87	382 05	169 68	21	23	....	7
5,180 46	189 66	46 16	2	150 00	66 41	41 36	11	5	....	2
736 31	51 63	17 32	2	287 96	116 81	...	5	3	...	.. ..
488 50	348 69	79 67	6	660 95	520 73	211 99	21	11	....	.....
410 86	27 68	15 49	1	.....	.....	.....	3	1	....	.....
1,518 96	124 49	26 64	2	175 00	113 81	49 35	7	2	....	.....
9,330 86	726 48	215 63	20	2,546 03	1,558 36	695 67	55	32	....	.....
45,432 10	2,748 54	617 49	52	5,363 60	3,618 88	710 18	226	168	....	20
154,142 86	11,802 55	3,085 93	215	26,202 73	17,732 47	7,446 30	790	564	3	78

APPENDIX D.—Being a return of business transacted by County Court Clerks throughout

County or District.	Amount for which issued without costs.	Amount of costs allowed thereunder.	Amount of money paid into Court with defence.	Amount of money paid out of Court.	Number of days of sitting of Judge with jury.	Number of days of sitting of Judge without jury.	Number of days of sittings of County Court.	Amount of jury fees paid County Treasurer.	Number of partition matters.	Amount of money paid thereunder.
	$ c.	$ c.	$ c.	$ c.				$ c.		
Algoma							3	4 50		
Brant							12	7 50	1	
Bruce	170 58	7 80	95 00	95 00			4	3 00		
Carleton			69 00	49 00			23	10 50		
Dufferin			125 00	125 00			2			
Elgin			48 76			7	7	4 50		
Essex							9	15 00		
Frontenac	460 60	60 85					8	4 50		
Grey			23 33				9	9 00		
Haldimand							2	1 50		
Halton						1	1			
Hastings	3,007 25	168 35		15 00			11	10 50		
Huron							9	3 00	2	2,415 00
Kent			395 00	645 49			11			
Lambton	282 93		41 60	41 60			4			
Lanark							4	1 50		
Leeds and Grenville							4			
Lennox and Addington				46 44			5	1 50		
Lincoln							2			
Manitoulin							4	1 50		
Middlesex			125 03	125 03			14	7 50		
Muskoka							3			
Nipissing			425 00	425 00			4	3 00		
Norfolk							2	3 00		
Northumberland and Durham							18	7 50		
Ontario	530 00	20 13					3	6 00		
Oxford							7	9 00		
Parry Sound							2			
Peel			5 00	5 00			7	3 00	1	
Perth			224 00	220 48			15	9 00		
Peterborough			100 00				5	10 50		
Prescott and Russell							4	1 50		
Prince Edward							2		1	202 00
Rainy River			819 25	767 95			18			
Renfrew			209 25	209 25			9			
Simcoe			250 19	253 55			5	4 50		
Stormont, Dundas and Glengarry	618 20	28 35					14	3 00		
Thunder Bay	144 81	20 45	219 80	219 80			16	3 00		
Victoria			268 00				17	6 00		
Waterloo			90 93	30 00	2	5	7	4 50	4	654 50
Welland							5	1 50		190 14
Wellington			140 00	202 23			5	3 00		
Wentworth			45 00	40 00			20	25 50		
York	4,583 80	69 39	1,145 70	3,251 39			70	52 50		
Totals	9,798 17	375 32	4,864 84	6,767 31	2	13	406	241 50	9	3,461 64

the Province of Ontario during the year ending December 31st, 1900—*Concluded.*

Amount paid out.	Amount at joint credit of Judge and Clerk.	Number of chattel mortgages and bills of sale filed.	Total amount secured by such mortgages.	Number of mortgages renewed.	Number of discharges filed.	Number of assignments for benefit of creditors.	Number of hire receipts filed under R.S.O., Cap. 149.	Total amount secured by such receipts.	Amount of fees earned by clerk including salary paid.
$ c.	$ c.		$ c.					$ c.	$ c.
....	.. ..	172	893,592 94	36	7	6	.....	... ..	154 71
.....	70 88	197	268,261 82	148	8	8	79	24,943 50	482 82
1,901 85	1,408 73	722	131,468 00	302	9	14	88	9,476 48	772 15
.. ..	.....	346	711,447 59	314	35	25	39	10,984 16	1,154 40
... .	.....	96	37,439 34	107	1	1	84	7,279 05	188 35
.....	303 97	353	185,298 00	164	7	16	136	10,026 42	563 10
.....	102 27	227	400,528 04	180	3	12	49	8,877 45	587 75
.....	379 14	398	153,787 08	193	4	10	127	7,941 15	470 65
.....	.....	844	245,626 36	398	6	10	77	2,105 57	710 80
....	... .	110	31,912 02	55	1	2	18	4,998 42	128 70
....	... .	69	38,738 79	56	2	2	7	955 00	127 85
....	....	679	312,563 06	274	9	11	140	13,822 22	773 83
1,136 58	3,058 47	389	264,802 00	171	6	11	46	16,696 08	402 40
.....	49 51	1,084	140,469 91	434	6	16	1,251	39,602 55	992 30
.....	... .	324	64,947 20	231	7	21	64	7,920 33	504 44
.....	....	225	101,824 01	79	6	3	13	3,440 80	226 50
.. ..	....	212	72,327 57	205	11	13	51	4,633 55	309 83
....	... .	126	42,061 94	129	9	9	95	3,514 10	301 05
....	.... ..	158	116,988 55	132	6	6	25	25,666 60	370 50
. .. .	.	90	41,206 67	27	.....	1	11	292 75	206 65
....	.....	425	102,215 82	281	8	29	150	28,087 56	944 30
.....	... .	221	199,739 37	63	6	.....	44	4,071 83	243 84
....	. . ...	276	970,165 07	50	18	7	25	10,071 58	219 55
.....	494 21	178	32,179 34	116	6	4	117	7,539 05	352 55
.....	... .	263	70,510 96	268	7	18	88	11,223 96	492 05
.. ..	.	195	117,157 14	179	6	6	68	12,235 36	268 90
. .....	2,525 82	208	62,788 64	118	10	16	58	9,936 81	648 35
.....	....	...	....	.....	.....	.....	.....	... .	30 55
.....	.....	161	59,767 78	84	3	3	3	768 00	239 59
..... .	.. ..	213	138,693 65	58	4	7	38	6,110 57	664 15
....	.....	155	77,226 71	156	6	5	47	42,351 10	334 76
....	.....	114	31,774 00	43	9	6	19	1,018 00	143 35
202 00	....	110	29,931 51	78	1	2	55	2,734 45	288 85
....	51 30	..... .	... .	.....	.....	....	....	... .	428 35
....	.. ..	172	122,347 13	154	5	11	21	4,672 00	358 00
....	.....	681	467,495 64	292	6	7	174	17,735 53	676 20
....	100 00	315	98,704 65	117	6	17	111	7,465 39	549 15
....	....	71	28,209 14	14	7	4	105	16,748 00	331 25
.....	.....	117	39,090 00	124	1	5	49	8,465 00	223 30
591 30	63 20	267	198,030 01	122	9	11	49	12,890 64	482 95
..... .	190 14	299	139 002 95	91	12	5	64	6,081 47	303 25
..... .	1,762 17	368	180,525 89	137	6	9	52	7,156 60	366 25
....	....	465	157,138 87	400	12	15	142	125,457 71	1,399 07
.....	3,703 77	1,752	577,676 00	850	45	60	370	124,878 00	3,863 80
3,831 73	14,263 58	13,847	8,155,661 60	7,424	336	444	4,249	670,174 79	23,281 14

APPENDIX E.—Being a return of business transacted by Surrogate Registrars

County or District.	Total number of Probates issued.	Total number of Letters of Administration issued.	Total number of Letters of Guardianship issued.	Total number of Probates and Letters of Administration issued under R.S.O. 59, s. 77.	Total number of Probates and Letters issued under R.S.O. c. 59, s. 74.	Number of Wills proved or Guardianship issued as follows: Above $100,000.	From $50,000 to $100,000.	From $25,000 to $50,000.	From $10,000 to $25,000.
Algoma	11	8	1	8	3	.....	.....	.....	.....
Brant	75	32	3	13	13	.....	.....	.....	4
Bruce	89	33	2	16	18	.....	.....	1	2
Carleton	106	86	9	33	23	2	3	2	10
Dufferin	25	17	.....	10	13	.....	.....	.....	.....
Elgin	69	34	5	13	13	.....	.....	2	3
Essex	58	39	7	15	14	.....	1	.....	1
Frontenac	64	29	3	12	11	1	.....	4	5
Grey	126	46	2	29	19	.....	.....	.....	3
Haldimand	52	15	1	11	7	.....	.....	.....	.....
Halton	46	18	1	12	5	.....	2	1	.....
Hastings	76	43	5	18	12	.....	1	3	1
Huron	134	52	3	19	18	.....	1	.....	8
Kent	94	57	8	22	17	.....	1	1	4
Lambton	94	54	7	20	23	1	2	1	2
Lanark	47	27	3	12	.....	.....	.....	2	3
Leeds and Grenville	101	51	6	29	14	.....	.....	4	5
Lennox and Addington	27	15	2	5	9	.....	.....	1	1
Lincoln	48	22	2	6	10	.....	1	.....	.....
Manitoulin	6	7	.....	4	4	.....	.....	.....	.....
Middlesex	188	85	7	46	27	1	2	.....	12
Muskoka	11	13	.....	5	11	.....	.....	.....	.....
Nipissing	13	14	.....	7	.....	.....	.....	.....	2
Norfolk	48	27	3	13	10	.....	.....	.....	1
Northumberland and Durham	107	56	3	19	24	.....	.....	1	7
Ontario	75	47	3	27	19	.....	.....	2	2
Oxford	96	42	5	20	13	.....	.....	4	4
Parry Sound	16	13	1	5	10	1	.....	.....	.....
Peel	40	24	1	8	12	.....	.....	2	6
Perth	91	47	.....	31	11	.....	2	.....	3
Peterborough	49	30	7	6	12	1	.....	2	5
Prescott and Russell	21	18	2	5	7	.....	.....	.....	2
Prince Edward	34	19	2	9	18	1	1	1	1
Rainy River	.....	.....	.....	6	2	.....	.....	.....	1
Renfrew	24	12	3	5	6	.....	1	.....	4
Simcoe	119	60	7	33	29	.....	.....	1	4
Stormont, Dundas and Glengarry	67	33	7	14	9	.....	1	1	3
Thunder Bay	7	11	.....	1	.....	.....	1	1	1
Victoria	43	13	1	8	9	.....	.....	.....	1
Waterloo	112	23	5	19	10	1	0	3	9
Welland	59	37	3	22	14	1	.....	.....	1
Wellington	139	56	4	36	29	.....	.....	1	9
Wentworth	136	70	9	36	28	1	6	2	6
York	376	273	24	86	134	10	7	22	26
Totals	3,219	1,708	167	774	690	21	33	65	162

throughout the Province of Ontario during the year ending 31st December, 1900.

and Letters of Administration where personality valued lows:				Total amount of personality devolving.	Total amount of realty to be administered under R.S.O. c. 127, s. 4.	Amount earned for		
From $5,000 to $10,000.	From $1,000 to $5,000.	From $400 to $1,000	$400 and under.			Registrar's fees.	Judge's fees.	Fee fund.
				$ c.	$ c.	$ c.	$ c.	$ c.
2	6	6	3	26,948 55	17,810 00	129 08	66 75	53 50
9	41	40	16	205,402 65	244,347 30	1,217 44	458 25	274 00
6	50	24	41	257,538 00	227,335 00	1,212 17	577 65	306 00
9	58	52	65	1,102,714 81	123,423 33	1,680 92	1,428 50	870 50
2	10	11	19	49,109 80	4,575 00	286 15	117 40	73 50
10	41	20	28	292,514 96	283,713 00	997 35	605 30	429 50
2	26	24	26	184,631 24	280,354 63	766 50	329 00	236 00
7	32	20	25	542,768 59	227,894 00	900 42	680 40	423 80
8	57	39	67	233,722 65	299,237 00	1,426 88	636 75	409 50
2	22	25	19	87,609 95	96,585 00	624 95	252 25	144 50
6	27	16	15	147,339 57	.....	488 85	277 35	168 50
6	33	37	38	285,069 00	39,965 00	1,160 42	569 20	345 50
12	77	36	55	493,246 60	59,663 00	1,786 12	1,085 75	539 50
17	53	27	29	945,674 89	437,806 00	1,306 22	731 60	434 50
6	41	39	43	600,187 60	325,647 00	1,136 45	946 50	516 00
4	30	22	14	295,315 00	32,199 00	498 28	324 95	215 00
6	66	36	35	461,151 89	50,460 00	1,126 42	470 50	322 00
3	14	10	15	115,212 14	70,670 00	397 22	208 40	121 00
5	26	13	26	190,925 36	137,812 00	618 05	326 50	214 00
.....	2	3	8	7,443 98	8,088 33	79 48	29 25	19 50
14	93	55	103	891,039 27	104,440 00	2,332 50	1,502 90	880 00
1	7	5	11	24,683 75	27,479 00	154 11	54 50	40 50
.....	5	5	15	41,774 57	....	146 30	77 25	59 00
3	21	22	31	90,473 77	95,395 00	820 33	287 50	155 00
15	60	37	46	390,569 70	284,400 00	1,341 17	705 25	509 00
7	33	28	50	258,596 93	36,360 00	924 25	543 45	314 00
6	56	35	38	368,603 90	328,019 00	1,754 45	855 25	423 50
.....	9	9	12	194,202 00	214,890 00	153 58	229 50	126 50
4	22	12	18	266,835 11	193,329 00	763 66	508 61	238 50
9	47	44	33	336,781 37	49,826 00	1,335 70	644 00	425 50
6	34	18	20	473,864 49	280,896 07	772 14	649 50	351 60
1	17	13	8	73,196 53	38,160 00	242 37	128 75	96 00
5	14	9	18	582,975 52	104,661 75	600 94	704 25	388 00
1	7	3	4	45,169 19	42,360 00	151 84	114 50	64 00
2	11	12	8	221,083 04	106,555 00	281 89	259 75	162 50
7	58	45	56	297,567 36	67,030 00	1,430 34	600 70	370 50
2	47	21	28	266,495 85	28,850 00	1,068 95	490 00	299 00
.....	4	2	9	146,353 64	....	178 13	189 00	103 50
2	27	11	16	97,780 55	....	440 44	190 15	129 00
18	37	20	24	597,884 06	288,877 00	675 33	882 70	529 00
6	28	12	51	298,684 62	150,237 00	901 85	586 50	307 00
4	54	47	74	432,841 00	346,293 00	1,654 63	804 75	518 00
22	59	34	85	1,528,570 44	589,228 55	2,278 70	2,188 00	1,123 50
41	185	116	266	4,797,076 00	....	5,299 57	2,993 35	3,142 50
298	647	1,115	1,611	19,247,029 89	6,330,870 96	43,542 55	26,312 36	16,871 90

APPENDIX F.—Return of fees and emoluments of County Judicial Officers throughout of such officers payable by the Government, the County

County and town.	Office.	Officer.	Amount earned.	Salary paid by Government.	Total earnings and salary in each office.	Total earnings and salary in all offices.	Total received for present year's services.
			$ c.	$ c.	$ c.	$ c.	$ c.
ALGOMA :							
Sault St. Marie	Sheriff	W. H. Carney	1,898 35	1,000 00	2,898 35	2,898 35	2,247 76
	Surrogate Judge	Judge Johnston	66 75		66 75	121 75	66 75
	Local Master	"	55 00		55 00		55 00
	Crown Attorney	J. J. Kehoe	293 00		293 00	974 00	173 00
	Clerk of the Peace	"	281 00	400 00	681 00		580 85
	Local Registrar	G. M. Farwell	83 00	150 00	233 00	1,116 79	233 00
	District Court Clerk	"	154 71	600 00	754 71		754 71
	Surrogate Registrar	"	129 08		129 08		129 08
BRANT :							
Brantford	Sheriff	Wm. Watt, Jr.	1,660 67			1,660 67	1,600 81
	Surrogate Judge	Judge Hardy	commuted	588 00		1,165 00	
	Local Master	" acting	commuted	577 00			
	Crown Attorney	A. J. Wilkes, K.C	617 05		617 05	1,588 97	617 05
	Clerk of the Peace	"	971 92		971 92		971 92
	Local Registrar	J. T. Hewitt	205 90	675 00	880 90	2,581 16	860 20
	County Court Clerk	"	482 82		482 82		461 30
	Surrogate Registrar	"	1,217 44		1,217 44		1,191 33
BRUCE :							
Walkerton	Sheriff	F. S. O'Connor	2,760 79			2,760 79	2,124 98
	Surrogate Judge	Judge Barrett	577 65			577 65	
	Local Master and Local Registrar	W. A. McLean	commuted	1,300 00		1,300 00	
	Crown Attorney	Thomas Dixon	632 30		632 30	2,265 07	446 60
	Clerk of the Peace	"	1,632 77		1,632 77		946 49
	County Court Clerk	M. Goetz	772 15		772 15	1,984 32	611 48
	Surrogate Registrar	"	1,212 17		1,212 17		971 15
CARLETON :							
Ottawa	Sheriff	John Sweetland	4,626 59			4,626 59	3,985 73
	Surrogate Judge	Judge McTavish	1,000 00			1,000 00	
	Local Master	W. L. Scott	2,091 90		2,091 90	2,665 85	1,993 38
	Deputy Registrar	"	573 95		573 95		553 88
	Crown Attorney	J. A. Ritchie	654 00		654 00	1 658 95	490 00
	Clerk of the Peace	"	1,004 95		1 004 95		433 95
	Dep. Clk. of Crown	J. P. Featherston	752 00	450 00	1,202 00	4,037 32	1,202 00
	County Court Clerk	"	1,154 40		1,154 40		1,154 40
	Surrogate Registrar	"	1,680 92		1,680 92		1,680 92
DUFFERIN :							
Orangeville	Sheriff	Thomas Bowles	1,208 91		1,208 91	1,208 91	829 34
	Surrogate Judge	Judge McCarthy	commuted	168 00	168 00	189 88	168 00
	Local Master	"	21 88		21 88		21 88
	Crown Attorney	W. J. L. McKay	88 00		88 00	579 35	36 00
	Clerk of the Peace	"	491 35		491 35		208 95
	Local Registrar	John McLaren	34 35	675 00	709 35	1,183 85	706 05
	County Court Clerk	"	188 35		188 35		186 85
	Surrogate Registrar	"	286 15		286 15		284 85
ELGIN :							
St. Thomas	Sheriff	Dugald Brown	1,945 28			1,945 28	1 432 25
	Surrogate Judge	Judge Hughes	commuted	681 00		681 00	
	Local Master	Robert Miller	1,086 54			1,086 54	806 03
	Crown Attorney	D. J. Donahue, K.C	389 93		389 98	1,191 42	254 63
	Clerk of the Peace	"	801 49		801 49		354 64
	Local Registrar	D. McLaws	293 55	675 00	968 55	2,529 00	888 65
	County Court Clerk	"	563 10		563 10		461 85
	Surrogate Registrar	"	997 35		997 35		960 25
ESSEX :							
SANDWICH	Sheriff	J. C. Iler	2,713 35			2,713 35	2,495 38
	Surrogate Judge	Judge Horne	329 00			329 00	
	Local Master	J. F. Hare	507 79		507 79	660 99	495 69
	Deputy Registrar	"	153 20		153 20		153 20
	Crown Attorney	A. H. Clarke	515 22		515 22	1,520 50	379 22
	Clerk of the Peace	"	1,005 28		1,005 28		609 97
	Dep. Clk. of Crown	F. E. Mascon	122 20	450 00	572 20	1,926 45	
	County Court Clerk	"	587 75		587 75		
	Surrogate Registrar	"	766 50		766 50		

the Province of Ontario for the year ending 31st December, 1900 ; and of total earnings and the general public respectively for the same period.

Total received for past year's services.	Total receipts by officer from all his offices.	Total disbursements.	Net income.	Amount paid to Government under 57 Vic. cap. 9.	Actual net income.	Earnings of each officer payable by the Government, the County, and the general public respectively.			County.
						From Government.	From County.	From general public.	
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
430 08	2,677 84	1,307 79	1,370 05	.....	1,370 05	2,152 87	.....	745 48	Algoma.
.....	121 75	....	121 75	.....	121 75	.....	.....	66 75	
..	.....	.....	.....	.....	.....	.....	.....	55 00	
101 00	971 79	25 00	946 79	.....	946 79	293 00	.....	.....	
116 94	...	.....	.....	.....	....	681 06	.....	....	
.....	1,116 79	.....	1,116 79	.....	1,116 79	150 00	.....	83 00	
.... .	.....	.....	.....	.....	.....	600 00	.....	154 71	
.....	.....	... ..	....	.....	.....	....	.....	129 08	
113 25	1,714 06	302 73	1,411 33	.. ..	1,411 33	1,036 48	432 55	191 64	Brant.
... ..	1,165 00	.....	1,165 00	.....	.....	588 00	....		
.... .	.....	.....	.....	.....	.....	577 00	... .		
.. ..	1,588 97	108 00	1,480 97	.....	1,480 97	605 05	.....	12 00	
.....	.....	.....	.....	.....	..	296 48	569 63	105 81	
.....	2,512 83	640 50	1,872 33	37 23	1,835 10	675 00	.....	205 90	
... .	.. ..	.....	.....	.....	.....	.. .	.... ..	482 82	
.. ..	.....	.	... ..	....	.....	....	.. ....	1,217 84	
964 28	3,089 26	951 18	2,138 08	.....	2,138 08	1,155 08	685 17	9 0 24	Bruce.
..	.. ....	.....	577 65	.....	577 65	....	.....	577 65	
	1,300 00	25 70	1,274 30	.....	1,274 30	1,300 00	... ...	.....	
178 89	2,108 45	111 24	1,994 21	.. . .	1,994 21	595 64	26 66	10 00	
536 56	.....	.....	.....	.....	..	204 25	1,345 09	83 43	
133 93	1,927 56	331 00	1,596 56	9 65	1,586 91	....		772 15	
210 95	....	.....	.. ..	.....	.....	....		1,212 47	
731 86	4,717 59	2,202 74	2 514 85	.....	2,514 85	1,430 70	665 20	2,530 69	Carlton.
..	1,000 00	.....	1,000 00	.....	1,000 00	.. ..	.....	1,428 50*	
95 21	2,641 77	320 40	2,321 37	. ....	2,321 37	.....	.....	2,091 90†	
2 30	.....	.....	.....	.....	.....	... .	.... ..	573 97	
163 60	1,540 58	837 34	703 24	....	703 24	637 00	10 00	7 00	
483 03	..	..	.. ....	.....	..	250 15	572 61	182 09	
21 59	4,058 91	1,226 31	2,832 60	219 78	2,582 82	450 00	.... .	752 06	
.....	...	...	.....	.....	.....	....	.....	1,154 40	
.....	.....	.....	.....	.....	.....	....	.....	1,680 92	
524 56	1,353 90	448 40	905 50	.....	905 50	474 39	394 92	339 60	Dufferin.
.....	189 88	.....	189 88	.. ...	189 88		.....	168 00	
..	.....	.....	.....	.....	...	....	.....	21 88	
168 35	665 70	60 00	605 70	.....	605 70	88 00	....	.....	
252 40	.....	.....	....	....	.....	5 50	109 85	30 00	
....	1,184 15	15 75	1,168 40	.....	1,168 40	675 00	.... ..	34 35	
4 30	.....	.....	.....	.....	... .	.....	.....	188 35	
2 10	.. ...	.....	...	....	.....	.. . ...	.....	286 15	
545 32	1,977 57	985 95	991 62	.....	991 62	1,087 49	365 34	492 45	Elgin.
.....	681 00	.....	681 00	.....	681 00	681 30	.....	....	
346 48	1,152 51	.....	1,152 51	.. ..	1,152 51	....		1,152 51	
60 00	1,065 99	258 62	807 37	.....	807 37	389 93	.....	.....	
396 72	.....	.....	....	.....	...	319 98	481 51	... .	
156 45	2,560 17	360 00	2,200 17	90 00	2,110 17	675 00	.....	293 55	
59 42	.....	.....	.....	.....	... .	.. ....	.....	563 10	
33 55	.....	.....	.... ..	.....	.....	. ....	... .	997 35	
733 00	3,228 98	1,668 60	1,560 38	.....	1 560 38	1,715 95	547 43	449 97	Essex.
.. ...	329 00		329 00	.....	329 00	....	.. ....	329 00	
62 00	729 07	156 00	573 07	.....	573 07	....	.....	507 79	
18 18	.....	.....	.....	.....	.....	... .	.....	153 20	
163 80	1,382 31	400 00	982 31	.....	982 31	385 70	15 02	114 50	
229 32	.. ....	.....	.....	.....	.....	174 60	687 39	143 29	
...	1,926 45	260 00	1,666 45	16 64	1,649 81	450 00	.....	122 20	
.... .	.....	.....	.....	.....	.....	.....	.. ....	587 75	
.....		...	....	....	.....	....	....	766 50	

*$428.50 Surplus Judge's fees paid Junior Judge. †$40.10 also earned and paid in stamps.

APPENDIX F.—Return of fees and emoluments of County

County and town.	Office.	Officer.	Amount earned.	Salary paid by Government.	Total earnings and salary in each office.	Total earnings and salary in all offices	Total received for present year's services.
			$ c.	$ c.	$ c.	$ c.	$ c.
FRONTENAC:							
Kingston	Sheriff	Thomas Dawson	2,359 53			2,359 53	2 359 53
	Surrogate Judge	Judge Price	commuted	752 00		752 00	
	Local Master	J. Mudie	337 70			337 70	138 52
	Crown Attorney	J. L. Whiting, K C.	283 20		283 20	1,035 68	225 00
	Clerk of the Peace	"	752 48		752 48		431 63
	Local Registrar	Archibald McGill	204 90	675 00	879 90	2,250 97	826 28
	County Court Clerk	"	470 65		470 65		434 65
	Surrogate Registrar	"	900 42		900 42		775 42
GREY:							
Owen Sound	Sheriff	C. H. Moore	2,347 58			2,347 58	1,783 14
	Surrogate Judge	Judge Creasor	636 75		636 75	949 37	636 75
	Local Masters	Judge Morrison	312 62		312 62		295 82
	Crown Attorney	A. G. MacKay	428 17		428 17	2,446 71	350 32
	Clerk of the Peace	"	1,018 54		1,018 54		646 59
	Local Registrar	W. A. Bishop	101 93	750 00	851 93	2,989 61	851 93
	County Court Clerk	"	710 80		710 80		710 80
	Surrogate Registrar	"	1,426 88		1,426 88		1,426 88
HALDIMAND:							
Cayuga	Sheriff	R. H. Davis	1,171 75	100 00	1,271 75	1,271 75	1,271 75
	Surrogate Judge	Judge McMillan	252 25		252 25	374 35	252 25
	Local Master	"	122 10		122 10		57 44
	Crown Attorney	C. W. Colter, K.C.	261 20		261 20	1,464 54	253 10
	Clerk of the Peace	"	1,203 34		1,203 34		654 80
	Local Registrar	James Mitchell	86 40	600 00	686 40	1,440 05	686 40
	County Court Clerk	"	128 70		128 70		128 70
	Surrogate Registrar	"	624 95		624 95		624 95
HALTON:							
Milton	Sheriff	M. Clements	1,167 59			1,167 59	1,123 18
	Surrogate Judge	Judge Hamilton	277 35		277 35	277 35	277 35
	Local Master	"					
	Crown Attorney	T. G. Matheson	177 30		177 30	1,493 06	148 80
	Clerk of the Peace	"	1,315 76		1,315 76		810 51
	Local Registrar	W. A. Lawrence	118 30	600 00	718 30	1,335 00	718 30
	County Court Clerk	"	127 85		127 85		127 85
	Surrogate Registrar	"	488 85		488 85		488 85
HASTINGS:							
Belleville	Sheriff	G. F. Hope	3,088 87			3,088 87	2,505 97
	Surrogate Judge	Judge Lazier	commuted	500 00		500 00	
	Local Master and Deputy Registrar	S. S. Lazier	commuted	3,000 00		3,000 00	
	Crown Attorney	"					
	Clerk of the Peace	J. M. Anderson	1,890 90		1,890 90	3,318 22	1,429 90
	Deputy Clerk of the Crown	A. G. Northrup	1,427 32		1,427 32		929 23
	County Court Clerk	"	256 66	450 00	706 66	2,640 91	606 66
	Surrogate Registrar	"	773 83		773 83		473 83
HURON:			1,160 42		1,160 42		660 42
Goderich	Sheriff	R. G. Reynolds	2,399 37			2,399 37	2,183 62
	Surrogate Judge	Judge Wasson	commuted	1,000 00		1,000 00	
	Local Master	Judge Doyle	330 60			330 60	230 81
	Crown Attorney	Ira Lewis	723 55		723 55	2,071 05	506 30
	Clerk of the Peace	"	1,347 50		1,347 50		956 00
	Local Registrar	D. McDonald	190 80	750 00	940 80	3,129 32	940 80
	County Court Clerk	"	402 40		402 40		402 40
	Surrogate Registrar	"	1,786 12		1,786 12		1,786 12
KENT:							
Chatham	Sheriff	J. R. Gemmill	3,020 69			3,020 69	2,180 93
	Surrogate Judge	Judge Bell	commuted	450 00		450 00	
	Local Master	C. J. O'Neil	no returns				
	Crown Attorney	Wm. Douglas, K.C	1,268 34		1,268 34	2,762 31	1,268 34
	Clerk of the Peace	"	1,493 97		1,493 97		1,205 72
	Local Registrar	James Holmes	547 00	450 00	997 00	3,295 52	997 00
	County Court Clerk	"	992 30		992 30		992 30
	Surrogate Registrar	"	1,306 22		1,306 22		1,306 22

* $1,491.53 paid by Wm. Douglas, Esq., K.C. acting as

Judicial Officers throughout the Province —*Continued.*

Total received for past year's services.	Total receipts by officer from all his offices.	Total disbursements.	Net income.	Amount paid to Government under 57 Vic. cap. 9.	Actual net income.	Earnings of each officer payable by the Government, the County, and the general public respectively.			County.
						From Government.	From County.	From general public.	
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
.....	2,359 53	757 26	1,602 27	.....	1,602 27	896 76	631 32	831 45	Frontenac.
.. ....	752 00	.....	752 00	.....	752 00	752 00	....	....	
142 80	281 32	28 50	252 82	.....	252 82	... .	.....	337 70	
65 00	1,081 73	100 00	981 73	.....	981 73	283 20	....	....	
360 10	..	....	... ...	.....	.....	144 05	608 43	.	
33 00	2,184 22	654 80	1,529 42	2 94	1,526 48	675 00	.....	204 90	
25 02	.. ....	.....	.....	.....	.....	.....	.....	470 65	
89 85	.....	.....	.....	.....	....	.....	.....	900 42	
653 95	2,437 09	787 27	1,649 82	.....	1,649 82	821 20	673 46	852 92	Grey.
.....	1,008 70	10 00	998 70	.....	998 70	... .	.....	636 75	
76 13	.....	.....	.....	.....	....	....	.....	312 62	
126 45	1,495 31	470 92	1,024 39	.....	1,024 39	135 10	293 07	.....	
381 95	.....	.....	.....	.....	.....	161 50	742 83	114 21	
.....	2 989 61	425 70	2,563 91	169 17	2,394 74	750 00	.....	101 93	
....	.....	. ....	.. .	.....	....	....	....	710 80	
.....	.....	.....	.....	.....	.....	.. ..	.....	1,426 88	
23 51	1,295 26	155 46	1,139 80	..... .	1,139 80	728 74	343 22	199 79	Haldimand.
.....	309 69	.. ...	309 69	.....	.....	... ..	....	252 25	
... ..	.....	.....	.....	.....	.....	....	.	122 10	
90 90	1,404 59	337 00	1,067 59	. .. ..	1,067 59	248 49	12 71	.....	
405 79	.....	....	.. . ..	.....	.....	139 45	986 58	77 31	
.....	1,440 05	28 00	1,412 05	.....	1,412 05	600 00	.. .	86 40	
.....	.....	.. ...	... .	.....	.....	..... .	.....	128 70	
.....	.....	.. ..	.....	.....	.....	....	.....	624 95	
52 60	1,175 78	243 60	932 18	.....	932 18	583 14	311 40	273 05	Halton.
..... .	309 25	.....	309 25	... ..	309 25	.. ... .	.....	277 35	
31 90	..	.. ..	.....	.....	.....	.....	.. ...	31 90	
145 00	1,576 85	79 39	1,497 46	.....	1,497 46	173 30	.... ..	4 00	
472 54	.. ..	.....	...	.....	... ..	87 25	1,203 36	25 15	
.. ..	1,335 00	300 00	1,035 00	.....	1,035 00	600 00	.....	118 30	
....	.. ..	....	.....	.....	.....	... .	....	127 85	
.....	.... ..	.....	.....	.....	.....	. ....	.....	488 85	
453 13	2,959 10	696 66	2,262 44	.....	2,262 44	1,249 20	733 99	1,105 68	Hastings.
.. ..	500 00	. ....	500 00	....	500 00	500 00	.... ..	....	
....	3,000 00	433 00	2,567 00	.....	2,567 00	3,000 00	.....	.....	
435 00	3,271 36	284 33	2,987 03	147 40	2,839 63	1,701 90	78 00	111 00	
477 23	.....	.....	.....	.....	..	319 80	1,100 32	7 20	
49 46	2 409 67	726 97	1,682 70	18 27	1,664 43	450 00	.....	256 66	
374 00	.. ...	... .	.. .	.....	..	.....	.....	773 83	
245 30	.....	.....	.... .	.....	.....	... .	.....	1,160 42	
136 89	2,320 51	639 94	1,680 57	.....	1,680 57	917 55	508 25	973 57	Huron.
.....	1,000 00	..	1,000 00	.....	1,000 00	1,000 00	.....	.....	
86 00	316 81	1 92	314 89	.....	314 89	....	... ..	330 60	
190 00	2,015 80	781 50	1,234 30	.....	1,234 30	665 85	57 70	.....	
363 50	.....	.....	.....	.....	.....	167 50	1,100 00	80 00	
.....	3,129 32	697 89	2,431 43	136 28	2,295 15	750 00	.....	199 80	
... .	..	.....	.....	..... .	.....	. .....	.... ..	402 40	
.....	.....	.....	.....	.....	.....	.. ...	.....	1,786 12	
812 14	2,993 07	1,019 18	1,973 89	.....	1,973 89	1,348 62	739 85	932 22	Kent.
.....	450 00	.....	450 00	.....	450 00	450 00	.....	... .	
.....	....	....	.....	.....	.....	....	....	.....	
.....	2,474 06	615 00	1,859 06	.....	1,859 06	1,173 16	.. ..	95 18	
....	.....	.....	.....	.....	.....	320 00	1,038 29	135 68	
.....	3,295 52	2,191 53	1,103 99	.....	1,103 99	450 00	.....	547 00	
....	.. ..	*	.....	.....	.....	....	.....	992 30	
.. ....	.... ..	.....	.....	.....	... .	.....	.....	1,306 22	

Deputy Clerk of the Crown, to estate of late W. A. Campbell.

APPENDIX F —Return of fees and emoluments of County

County and town.	Office.	Officer.	Amount earned.	Salary paid by Government.	Total earnings and salary in each office.	Total earnings and salary in all offices.	Total received for present year's services.
			$ c.	$ c.	$ c.	$ c.	$ c.
LAMBTON :							
Sarnia	Sheriff	James Flintoft	2,285 74			2,285 74	1,660 82
	Surrogate Judge	Judge Macwatt	946 50		946 50	956 15	
	Local Masters	"	9 65		9 65		
		Judge Mackenzie	198 85		198 85	198 85	198 85
	Crown Attorney	J. P. Bucke	875 25		875 25	2,171 60	670 05
	Clerk of the Peace	"	1,296 35		1,296 35		1,160 50
	Local Registrar	W. R. Gemmill	345 48	675 00	1,020 48	2,661 37	1,020 48
	County Court Clerk	"	504 44		504 44		504 44
	Surrogate Registrar	"	1,136 45		1,136 45		1,136 45
LANARK :							
Perth	Sheriff	James Thompson	1,631 59			1,631 59	1,228 76
	Surrogate Judge	Judge Senkler	324 95		324 95	335 13	324 95
	Local Master	"	10 18		10 18		
	Crown Attorney	E. G. Malloch	603 62		603 62	1,205 71	465 16
	Clerk of the Peace	"	602 09		602 09		349 35
	Local Registrar	Charles Rice	158 30	675 00	833 30	1,558 08	777 00
	County Court Clerk	"	226 50		226 50		184 25
	Surrogate Registrar	"	498 28		498 28		376 62
LEEDS & GREN. :							
Brockville	Sheriff	G. A. Dana	2,170 43			2,170 43	1,765 39
	Surrogate Judge	Judge McDonald	commuted	600 00	600 00	1,129 28	600 00
	Local Master	"	529 28		529 28		289 76
	Crown Attorney	M. M. Brown	413 58		413 58	1,295 28	413 58
	Clerk of the Peace	"	881 70		881 70		881 70
	Local Registrar	O. K. Fraser	353 28	580 90	934 18	2,370 43	934 18
	County Court Clerk	"	309 83		309 83		309 83
	Surrogate Registrar	"	1,126 42		1,126 42		1,126 42
LENNOX & ADD :							
Napanee	Sheriff	G. D. Hawley	1,432 46			1,432 4	797 37
	Surrogate Judge	Judge Wilkinson	commuted	400 00		400 00	
	Local Master	S. S. Lazier	292 00		292 00		245 00
	Crown Attorney	H. M. Drooche, K.C.	225 30		225 30	840 27	140 80
	Clerk of the Peace	"	614 97		614 97		312 11
	Local Registrar	W. P. Drooche	266 30	600 00	866 30	1,564 57	
	County Court Clerk	"	301 05		301 05		
	Surrogate Registrar	"	397 22		397 22		
LINCOLN :							
St. Catharines	Sheriff	Thos. C. Dawson	2,093 15			2,093 15	1,857 06
	Surrogate Judge	Judge Carmen	311 50			311 50	
	Local Master	F. W. Macdonald	498 51		498 51	651 03	230 75
	Deputy Registrar	"	152 52		152 52		104 66
	Crown Attorney	M. Brennan	469 40		469 40	1,526 32	469 40
	Clerk of the Peace	"	1,056 92		1,056 92		1,056 92
	Deputy Clerk of the Crown	Johnson Clench	65 50	450 00	515 50	1,504 06	496 78
	County Court Clerk	"	370 50		370 50		343 00
	Surrogate Registrar	"	618 06		618 06		612 66
MANITOULIN :							
Gore Bay	Sheriff	E. H. Jackson	874 80	500 00		1,374 80	
	Surrogate Judge	Judge McCallum	29 25			29 25	
	Local Master	"					
	Crown Attorney	J. F. Cashman		250 00		545 58	
	Clerk of the Peace	"					
	Local Registrar	W. S. Francis	2 00		2 00	638 13	2 00
	District Court Clerk	"	206 65	350 00	556 65		556 65
	Surrogate Registrar	"	79 48		79 48		79 48
MIDDLESEX :							
London	Sheriff	D. M. Carreron	3,957 83			3,957 83	3,782 72
	Surrogate Judge	Judge Elliott*	commuted	1,000 00		1,000 00	
	Local Master	R. K. Cowan	725 42		725 42	2,015 53	173 18
	Deputy Registrar	"	1,290 11		1,290 11		1,102 76

* $502.90 surplus Judge s

Judicial Officers throughout the Province, etc.—*Continued.*

Total received for past year's services.	Total receipts by officer from all his offices.	Total disbursements.	Net income.	Amount paid to Government under 57 Vict. cap 9.	Actual net income.	Earnings of each officer payable by the Government, the County, and the general public respectively.			County.
						From Government.	From County.	From general public.	
$ c	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
743 71	2,404 53	682 72	1,721 81	.....	1,721 81	1,029 60	452 55	803 59	Lambton.
.... ..	956 15	.... ..	956 15	.....	956 15	.....	.... ..	946 50	
....	.....	.....	.....	.....	.....	.....	.....	9 65	
61 10	259 95	.....	259 95	.....	259 95	.....	.. ..	259 95	
290 20	2,274 35	390 85	1,883 50	....	1,883 50	830 59	44 66	....	
153 60	.....	.....	.....	.....	..	276 35	1,020 00	.....	
....	2,661 37	145 00	2,516 37	154 91	2,361 46	675 00	.. ..	345 48	
.....	.... ..	.....	.....	.. ....	....	.....	.....	504 44	
.....	.... ..	.....	.....	.....	.....	.....	.....	1,136 45	
521 53	1,750 29	518 35	1,231 94	....	1,231 94	827 23	409 69	394 67	Lanark.
.... ..	446 59	.....	446 59	.. ....	446 59	.... ..	... .	324 95	
121 64	.....	.....	.....	..	..	....	... .	10 18	
106 98	1,221 58	119 97	1,101 61	.....	1,101 61	474 21	104 84	24 57	
300 14	.... ..	.... ..	.....	.....	.....	180 85	405 99	15 25	
80 30	1,682 51	79 75	1,602 76	10 27	1,592 49	675 00	... ..	158 30	
83 25	.. ..	.....	.... ..	..	.....	.... ..	..	226 50	
181 09	.....	.....	..	.....	.. ..	.....	.....	498 28	
397 27	2,162 66	692 32	1,470 34	.....	1,470 34	941 40	519 49	709 54	Leeds & Grenville.
.... ..	1,087 12	16 44	1,070 68	.....	1,070 68	600 00	..... .	.....	
197 36	..	..	..	.....	.. .	....	.... .	529 28	
.....	1,295 28	140 00	1,155 28	.....	1,155 28	413 58	. .	..	
.... ..	.....	.....	.....	.....	.....	142 10	643 91	95 69	
.....	2,370 43	381 94	1,988 49	48 85	1,939 64	580 90	.. ..	353 28	
.....	....	.. ..	.....	.....	..... .	.....	.....	309 83	
.....	.. .. ..	.. ....	.....	.....	.....	.....	.....	1,126 42	
492 82	1,290 19	376 65	913 54	.....	913 54	616 06	383 01	433 39	Lennox & Addington.
.... .	400 00	. ....	400 00	..	400 00	400 00	.....	.....	
35 00	280 00	75 00	205 00	.....	205 00	....	....	292 00	
29 21	708 36	76 40	631 96	.....	631 96	163 00	4 00	58 80	
226 24	.. ..	.. ..	.. ..	.....	.....	105 30	478 29	31 38	
.....	1,564 57	71 60	1,492 97	....	1,492 97	600 00	.....	266 30	
.....	.... ..	.....	.....	.....	.....	....	.....	301 05	
.....	.. .	.....	....	..	.	....	.....	397 22	
32 19	1,889 25	471 17	1,418 08	.....	1,418 08	710 19	565 00	817 9	Lincoln.
.....	311 50	.. ....	311 50	.....	311 50	....	.....	311 50	
267 76	692 61	.... ..	692 61	.. ..	692 61	....	.	498 51	
89 44	..	..	..	....	....	....	.....	152 52	
.. ..	1,536 32	195 00	1,331 32	.....	1,331 32	366 40	.....	103 00	
.....	..	.....	.....	.....	....	125 70	846 22	85 00	
17 10	1,588 72	167 50	1,421 22	.... ..	1,421 22	450 00	.....	65 50	
119 18	..	.....	..	.....	.....	.. ....	.....	370 50	
... ..	....	.. ..	....	.....	.....	.... ..	.....	618 06	
.....	1,374 80	123 25	1,251 55	.....	1,251 55	1,374 80	.....	....	Manitoulin.
.....	29 25	.....	29 25	.....	29 25	..... .	.....	29 25	
.. ..	.....	.....	..	.....	.....	....	.... ..	.....	
.....	545 58	.....	545 58	..	545 58	545 58	.... ..	.....	
.....	.....	.....	.....	.....	.....	.....	.....	.....	
.....	638 13	.....	638 13	....	638 13	.....	.....	2 00	
.....	....	.....	.....	.....	..	350 00	....	206 65	
....	.....	.....	.....	.....	.....	... .	.....	79 48	
93 34	3,876 06	1,872 02	2,004 04	.....	2,004 04	1,718 95	1,238 29	1,000 59	Middlesex.
.....	1,000 00	... .	1,00 000	.....	1,000 00	1,000 00	.	.....	
25 00	1,614 86	530 00	1,084 86	.....	1,084 86	.....	.....	725 42	
313 92	.....	.....	.....	.....	.....	.....	.....	1,290 11	

fees paid Junior Judge.

APPENDIX F.—Return of fees and emoluments of County

County and town.	Office.	Officer.	Amount earned.	Salary paid by Government.	Total earnings and salary in each office.	Total earnings and salary in all offices	Total received for for present year's services.
MIDDLESEX.—*Continued.*			$ c.	$ c.	$ c.	$ c.	$ c.
London	Crown Attorney	James Magee, K.C.	2,016 89		2,016 89	3,836 98	1,110 09
	Clerk of the Peace	"	1,820 09		1,820 09		1,262 74
	Dep. Clk. of Crown	John Macbeth	231 60	500 00	731 60	4,008 40	708 50
	County Court Clerk	"	944 30		944 30		928 30
	Surrogate Registrar	"	2,332 50		2,332 50		2,250 45
MUSKOKA:							
Bracebridge	Sheriff	James W. Bettes	1,267 64	500 00		1,767 64	1,438 06
	Surrogate Judge	Judge Mahaffy	54 50			54 50	
	Local Master	"					
	Crown Attorney	Thomas Johnson	366 67	250 00	616 67	929 67	538 27
	Clerk of the Peace	"	313 00		313 00		172 73
	Local Registrar	Isaac Huber	147 95	600 00	747 95	1,145 90	
	District Court Clerk	"	243 84		243 84		
	Surrogate Registrar	"	154 11		154 11		
NIPISSING:							
North Bay	Sheriff	H. C. Varin	2,046 74	750 00		2,796 74	2,598 66
	Surrogate Judge	Judge Valin	77 25		77 25	96 85	77 25
	Local Master	"	19 60		19 60		5 00
	Crown Attorney	A. G. Browning	438 15	250 00	688 15	876 21	611 15
	Clerk of the Peace	"	188 06		188 06		188 06
	Local Registrar	Thos. J. Bourke	47 70	150 00	197 70	1,013 55	
	District Court Clerk	"	219 55	450 00	669 55		
	Surrogate Registrar	"	146 30		146 30		
NORFOLK:							
Simcoe	Sheriff	Joseph Jackson	1,130 43			1,130 43	1,130 43
	Surrogate Judge	Judge Robb	287 50		287 50	317 68	
	Local Master	"	30 18		30 18		
	Crown Attorney	J. H. Ansley	404 90		404 90	1,217 69	404 90
	Clerk of the Peace	"	812 79		812 79		797 30
	Local Registrar	C. C. Rapelje	138 30	675 00	813 30	1,985 98	728 70
	County Court Clerk	"	352 35		352 35		225 85
	Surrogate Registrar	"	820 33		820 33		683 36
NORTHUMBERLAND & DURHAM:							
Cobourg	Sheriff	I. O. Proctor	2,979 40			2,979 40	2,005 30
	Surrogate Judge	Judge Benson	commuted	840 00		840 00	
	Local Master	J. H. Dumble	313 12			313 12	287 00
	Crown Attorney	J. W. Kerr	802 69		802 69	1,900 67	538 02
	Clerk of the Peace	"	1,097 98		1,097 98		622 88
	Local Registrar	E. A. Macnachtan	111 85	750 00	861 85	2,695 07	
	County Court Clerk	" acting	492 05		492 05		
	Surrogate Registrar	"	1,341 17		1,341 17		
ONTARIO:							
Whitby	Sheriff	J. F. Paxton	1,672 52			1,672 52	1,175 31
	Surrogate Judge	Judge Smith	543 45		543 45	600 20	
	Local Master	"	56 75		56 75		
	Crown Attorney	J. E. Farewell, K.C.	1,685 36		1,685 36	2,781 54	504 07
	Clerk of the Peace	"	1,096 18		1,096 18		658 88
	Local Registrar	L. T. Barclay	37 00	675 00	712 00	1,905 15	
	County Court Clerk	"	268 90		268 90		
	Surrogate Registrar	"	924 25		924 25		
OXFORD:							
Woodstock	Sheriff	James Brady	1,992 98			1,992 98	1,810 73
	Surrogate Judge	Judge Finkle	855 25			855 25	
	Local Master	W. T. McMullen	958 55		958 55	1,178 25	829 81
	Deputy Registrar	"	219 70		219 70		204 67
	Crown Attorney	F. R. Ball, K.C.	251 70		251 70	1,082 21	251 70
	Clerk of the Peace	"	830 51		830 51		830 51
	Dep. Clk. of Crown	James Canfield	374 90	450 00	824 90	3,227 70	654 90
	County Court Clerk	"	648 35		648 35		478 00
	Surrogate Registrar	"	1,754 45		1,754 45		1,187 00

Judicial Officers throughout the Province, etc. —*Continued.*

Total received for past year's services.	Total receipts by officer from all his offices.	Total disbursements.	Net income.	Amount paid to Government under 57 Vict. cap. 9.	Actual net income.	Earnings of each officer payable by the Government, the County, and the general public respectively.			County.
						From Government.	From County.	From general public	
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
678 40	3,833 12	986 97	2,846 15	119 23	2,726 92	1,922 82	52 67	41 40	Middlesex.—*Con.*
781 89	.....	.....	.....	.....	.....	408 80	1,229 99	181 30	
48 50	4,060 65	900 00	3,160 65	380 33	2,780 32	500 00	.....	231 60	
12 80	.....	.....	.....	.....	.....	.....	.....	944 30	
112 10	.....	.....	.....	.....	.....	.....	.....	2,332 50	
487 08	1,925 14	723 30	1,201 84	.....	1,201 84	1,515 27	.....	252 37	Muskoka.
.....	54 50	.....	54 50	.....	54 50	.....	.....	54 50	
.....	.....	.....	.....	.....	.....	.....	.....	.....	
63 00	937 59	284 90	652 69	.....	652 69	616 67	.....	.....	
163 59	.....	.....	.....	.....	.....	259 41	.....	53 59	
.....	1,145 90	22 80	1,123 10	.....	1,123 10	600 00	.....	147 95	
.....	.....	.....	.....	.....	.....	.....	.....	243 84	
.....	.....	.....	.....	.....	.....	.....	.....	154 11	
322 17	2,920 83	1,248 70	1,672 13	.....	1,672 13	2,796 74	.....	.....	Nipissing.
.....	82 25	.....	82 25	.....	82 25	.....	.....	77 25	
.....	.....	.....	.....	.....	.....	.....	.....	19 60	
164 10	1,085 88	45 00	1,040 88	.....	1,040 88	688 15	.....	.....	
122 57	.....	.....	.....	.....	.....	188 06	.....	.....	
.....	1,013 55	29 75	983 80	.....	983 80	150 00	.....	47 70	
.....	.....	.....	.....	.....	.....	450 00	.....	219 55	
.....	.....	.....	.....	.....	.....	.....	.....	146 30	
20 04	1,150 47	319 46	831 01	.....	831 01	709 48	288 22	132 73	Norfolk.
.....	319 88	.....	319 88	.....	319 88	.....	.....	287 50	
2 20	.....	.....	.....	.....	.....	.....	.....	30 18	
.....	1,203 86	167 80	1,036 06	.....	1,036 06	75 00	323 90	6 00	
1 66	.....	.....	.....	.....	.....	88 40	667 65	56 74	
24 65	1,965 09	36 85	1,928 24	42 82	1,885 42	675 00	.....	138 30	
53 90	.....	.....	.....	.....	.....	.....	.....	352 35	
248 63	.....	.....	.....	.....	.....	.....	.....	820 33	
533 62	2,538 92	1,304 47	1,234 45	.....	1,234 45	1,358 29	758 48	862 63	Northumberland and Durham.
.....	840 00	.....	840 00	.....	840 00	.....	.....	840 00	
208 91	495 91	.....	495 91	.....	495 91	.....	.....	313 12	
164 00	1,755 45	356 25	1,399 20	.....	1,399 20	718 29	50 00	34 40	
430 55	.....	.....	.....	.....	.....	763 62	195 65	138 71	
.....	2,695 07	595 00	2,100 07	.....	2,100 07	750 00	.....	111 85	
.....	.....	.....	.....	.....	.....	.....	.....	492 05	
.....	.....	.....	.....	.....	.....	.....	.....	1,341 17	
399 07	1,574 38	409 12	1,165 26	.....	1,165 26	739 93	480 00	452 59	Ontario.
.....	600 20	.....	600 20	.....	600 20	.....	.....	543 45	
.....	.....	.....	.....	.....	.....	.....	.....	56 75	
86 00	1,715 16	407 55	1,307 61	.....	1,307 61	285 87	1,399 50	.....	
466 21	.....	.....	.....	.....	.....	162 16	926 17	7 85	
.....	1,905 15	245 00	1,660 15	16 00	1,644 15	675 00	.....	37 00	
.....	.....	.....	.....	.....	.....	.....	.....	268 90	
.....	.....	.....	.....	.....	.....	.....	.....	924 25	
133 80	1,944 53	925 12	1,019 41	.....	1,019 41	938 80	466 17	568 01	Oxford.
.....	855 25	.....	855 25	.....	855 25	.....	.....	855 25	
207 81	1,259 39	121 00	1,138 39	.....	1,138 39	.....	.....	958 55	
17 10	.....	.....	.....	.....	.....	.....	.....	219 70	
39 50	1,528 18	9 81	1,518 37	.....	1,518 37	251 70	.....	.....	
406 47	.....	.....	.....	.....	.....	77 70	690 55	62 26	
172 00	3,079 90	253 85	2,826 05	247 81	2,578 24	450 00	.....	374 90	
97 00	.....	.....	.....	.....	.....	.....	.....	648 35	
491 00	.....	.....	.....	.....	.....	.....	.....	1,754 45	

APPENDIX F.—Return of fees and emoluments of County

County and town.	Office.	Officer.	Amount earned.	Salary paid by Government.	Total earnings and salary in each office.	Total earnings and salary in all offices.	Total received for present year's services
			$ c	$ c.	$ c.	$ c.	$ c.
PARRY SOUND : Parry Sound..	Sheriff	Samuel Armstrong.	1,569 90	500 00	. ..	2,069 90	1,670 35
	Surrogate Judge..	Judge McCurry....	229 50	.. .	.....	229 50	.. ..
	Local Master ..	" ...	.....	.....	.....	.....	.....
	Crown Attorney...	W. L. Haight	393 50	250 00	643 50	869 69	616 50
	Clerk of the Peace.	"	226 19	.. ....	226 19	.....	143 86
	Local Registrar....	E. Jordan.	34 85	600 00	634 85	818 98	.....
	District Court Clerk	"	30 55	.... ..	30 55	.....	.....
	Surrogate Registrar	"	153 58	.....	153 58	.. ..	.....
PEEL : Brampton ...	Sheriff	Robert Broddy ...	1,853 51	.....	....	1,853 51	1,409 99
	Surrogate Judge ...	Judge McGibbon .	508 61	... ..	508 61	698 61	508 61
	Local Master.....	" ..	190 00	.. ....	190 00	.....	190 00
	Crown Attorney...	W. H. McFadden..	543 50	.....	543 50	1,581 97	464 00
	Clerk of the Peace.	" ..	1,038 47	.....	1,038 47	.... ..	842 71
	Local Registrar....	*J. B. Dixon	169 50	600 00	769 50	1,772 75	.....
	County Court Clerk	"	239 59	.....	239 59	.. ..	....
	Surrogate Registrar	"	763 66	.. ...	763 66	.....	.....
PERTH : Stratford.....	Sheriff ...	John Hossie	2,164 93	.....	. .....	2,164 93	1,633 75
	Surrogate Judge...	Judge Barron	commuted	873 00	... .	1,723 00	.....
	Local Master ...	"	commuted	850 00	.... ..	.....	.. ....
	Crown Attorney..	John Idington, K.C.	789 63	.....	789 63	1,794 35	725 03
	Clerk of the Peace.	"	1,004 72	.....	1,004 72		534 29
	Local Registrar ..	W. C. Moscrip....	778 90	675 00	1,453 90	3,453 75	3,453 75
	County Court Clerk	"	664 15	.....	664 15	.....	.....
	Surrogate Registrar	"	1,335 70	.....	1,335 70	.....	.....
PETERBOROUGH : Peterborough.	Sheriff	J. A. Hall	1,561 43	....	.....	1,561 43	1,536 25
	Surrogate Judge...	Judge Weller	649 50	.....	649 50	906 50	.....
	Local Master.....	"	257 00	....	257 00	..	. .
	Crown Attorney...	R. E. Wood	519 50	.....	519 50	1,386 44	390 60
	Clerk of the Peace.	"	866 94	... ..	866 94	... ...	350 50
	Local Registrar....	John Moloney.....	261 21	675 00	936 21	2,043 11	... ...
	County Court Clerk	"	334 76	.....	334 76	.....	.....
	Surrogate Registrar	"	772 14	.... ..	772 14	..	.....
PRESCOTT AND RUSSELL : L'Orignal.	Sheriff	Albert Hagar.....	1,231 96	500 00	.....	1,731 96	1,718 23
	Surrogate Judge...	Judge O'Brian ...	128 75	.....	128 75	180 80	128 75
	Local Master.....	"	52 05	.....	52 05	....	.....
	Crown Attorney...	J. Maxwell.....	262 99	.....	262 99	1,138 47	.....
	Clerk of the Peace.	"	875 48	.....	875 48	.... ..	.....
	Local Registrar ...	J. Maxwell, acting	35 80	675 00	710 80	1,096 52	.. ....
	County Court Clerk	"	143 35	... .	143 35	.....	.....
	Surrogate Registrar	"	242 37	.....	242 37	.....	.....
PRINCE EDWARD : Picton.....	Sheriff	James Gillespie....	1,245 53	200 00	..... .	1,445 53	1,178 57
	Surrogate Judge...	Judge Merrill . ..	704 25	.....	.....	704 25	.....
	Local Master.....	C. H. Widdifield .	78 10	.....	....	78 10	42 30
	Crown Attorney ..	J. Roland Brown..	153 80	.....	153 80	997 85	110 20
	Clerk of the Peace.	" ..	844 05	.....	844 05	... .	534 77
	Local Registrar....	W. H. R. Allison, K.C.	.....	600 00	600 00	1,489 79	..... .
	County Court Clerk	"	288 85	.....	288 85	.....	.....
	Surrogate Registrar	"	600 94	.....	600 94	.....	.....
RAINY RIVER : Rat Portage..	Sheriff	H. Langford, acting.	1,835 71	901 16	.....	2,736 87	2,376 89
	Surrogate Judge ..	Judge Chapple	114 50	....	114 50	368 00	114 50
	Local Master.....	"	253 50	.....	253 50	.....	138 00

* From 11th June.

Judicial Officers throughout the Province, etc.—*Continued.*

Total received for past year's services.	Total receipts by officer from all his offices.	Total disbursements.	Net income	Amount paid to Government under 57 Vict. cap. 9.	Actual net income.	Earnings of each officer payable by the Government, the County, and the general public respectively.			County.
						From Government.	From County.	From general public.	
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
494 46	2,164 81	1,060 92	1,103 89	....	1,103 89	1,907 61	....	162 29	Parry Sound.
.... ..	229 50	... .	229 50	.... ..	229 50	.....	.....	229 50	
....	.....	... .	.....	.....	... ..	... ..	.....	.....	
63 04	880 69	124 21	756 48	.....	756 48	630 50	.....	13 00	
57 29	.....	. ..	.....	.....	.....	212 29	.....	13 90	
..... .	818 98	16 50	802 48	... .	802 48	600 00	.....	34 85	
.....	....	.....	.... ..	... ..	.....	.....	.....	30 55	
.....	.. .	....	.... ..	.. ..	.....	.....	....	153 58	
386 12	1,796 11	1,024 65	771 46	. ..	771 46	966 53	376 90	510 08	Peel.
.....	698 61	.....	698 61	.....	698 61	... .	.. ....	508 61	
.....	.....	.....	.....	.....	.....	.....	... ...	190 00	
115 50	1,689 65	69 50	1,620 15	.....	1,620 15	543 50	..	.....	
267 44	.. .. ..	.....	.....	.....	.....	219 55	755 40	63 52	
.....	1,772 75	47 35	1,725 40	... ..	1,725 40	600 00	.....	169 50	
.....	.....	.... ..	... ..	. ..	.....	.. ..	.... ..	239 59	
.....	....	.....	.....	.....	.....	.....	.....	763 66	
908 05	2,541 80	799 36	1,742 44	.....	1,742 44	957 90	474 29	732 74	Perth.
....	1,723 00	.... ..	1,723 00	.... ..	1,723 00	873 00	.....	.....	
.....	.....	.....	....	.. ..	.....	850 00	.. ....	....	
143 80	2,055 35	508 68	1,546 67	.....	1,546 67	378 71	.....	410 92	
652 23	.....	...	...	.....	.....	128 90	775 95	99 87	
.....	3,453 75	878 49	2,575 26	172 57	2,402 69	675 00	.....	778 90	
.....	.. ..	.. ....	.... .	.....	.... ..	.....	.....	664 15	
.....	.... ..	... ...	.. ....	. ..	.... ..	.....	.....	1,335 70	
26 45	1,562 70	676 40	886 30	.....	886 30	748 65	478 20	334 58	Peterborough.
.....	906 50	.. ..	906 50	....	906 50	....	.....	649 50	
.....	.....	.....	.....	.....	.....	.....	.....	257 00	
116 20	1,340 09	21 00	1,319 09	... .	1,319 09	415 50	51 00	53 00	
482 79	....	.....	.....	. ..	.... ..	88 35	639 94	118 65	
.....	2,043 11	315 00	1,728 11	22 81	1,705 30	675 00	.... ..	261 21	
.....	....	.... .	... ..	. ..	.....	.....	.....	334 76	
.... ..	.... ..	..	.... ..	..	... ..	.. ...	.....	772 14	
547 77	2,266 00	687 06	1,578 94	.....	1,578 94	915 66	367 29	419 01	Prescott and Russell.
.....	142 85	. .....	142 85	.....	142 85	....	.....	128 75	
14 10	.. ..	... ..	.....	.....	.....	.....	.....	52 05	
.....	1,138 47	30 00	1,108 47	.....	1,108 47	188 21	74 78	.....	
.....	.... ..	.....	..	.....	..	120 02	742 46	13 00	
.....	1,096 52	300 00	796 52	.....	796 52	675 00	.... ..	35 80	
....	.. ..	.....	... .	..	. .....	.....	.....	143 35	
.....	.....	.....	.... .	... ..	.....	.....	.....	242 37	
317 72	1,696 29	820 48	875 81	.....	875 81	842 07	482 93	120 53	Prince Edward.
.....	704 25	... ..	704 25	.....	704 25	.....	.....	704 25	
130 90	173 20	....	173 20	.....	173 20	.....	.....	78 10	
22 60	920 69	33 21	887 48	.....	887 48	153 80	.....	.....	
253 12	.....	.... ..	..... .	.... .	.... .	84 25	722 55	37 25	
.....	1,489 79	42 75	1,447 04	.....	1,447 04	600 00	.....	.....	
.....	.....	.... ..	.....	.....	. ..	.....	.....	288 85	
.....	.....	.....	.....	.....	.....	....	.....	600 94	
256 50	2,633 39	994 45	1,638 94	.....	1,638 94	2,200 50	.....	536 37	Rainy River.
.....	258 20	5 00	253 20	.....	253 20	....	.....	114 50	
5 70	.....	.....	.....	.....	.....	....	.... ..	253 50	

APPENDIX F.—Return of fees and emoluments of County

County and town.	Office.	Officer.	Amount earned.	Salary paid by Government.	Total earnings and salary in each office.	Total earnings and salary in all offices.	Total received for present year's services.
			$ c.	$ c.	$ c.	$ c.	$ c.
RAINY RIVER—*Continued.*							
Rat Portage.	Crown Attorney..	H. Langford	330 54	250 00	580 54	863 97	.. ....
	Clerk of the Peace.	"	283 43	..	283 43	.....	.....
	Local Registrar .	F. J. Apjohn.....	193 20	700 00	893 20	1,473 39	.....
	District Court Clerk	"	428 35	. ..	428 35	....	.....
	Surrogate Registrar	"	151 84	. ..	151 84	. . ..	.....
RENFREW:							
Pembroke	Sheriff..... .. .	Wm. Moffatt	1,670 17	100 00	.....	1,770 17	1,752 76
	Surrogate Judge...	Judge Deacon.....	commuted	264 00	264 00	269 63	264 60
	Local Master.....	"	5 63	.....	5 63	... ...	5 63
	Crown Attorney....	J. H. Metcalf	129 78	.... .	129 78	789 98	105 78
	Clerk of the Peace	" . ..	660 20	.....	660 20	.. .	428 58
	Local Registrar. ..	Matthew McKay..	68 00	600 00	668 00	1,307 89	.....
	County Court Clerk	" .	358 00	.... ..	358 00	.....	. ..
	Surrogate Registrar	" ..	281 89	.....	281 89	.... .	.....
SIMCOE:							
Barrie..... .	Sheriff	Hon. Chas. Drury.	2,605 44	..	.... .	2,605 44	2,424 72
	Surrogate Judge...	Judge Ardagh.....	commuted	585 00	.. ..	585 00	.....
	Local Master	J. R. Cotter	323 21	.....	323 21	2,793 84	323 21
	Deputy Registrar..	" ....:	548 35	.....	548 35	... ..	548 35
	Crown Attorney...	"	831 32	.....	831 32	.....	831 32
	Clerk of the Peace.	"	1,090 96	.....	1,090 96	.....	1,090 96
	Deputy Clerk of the Crown	J McL. Stevenson.	105 85	500 00	605 85	2,712 39	.. ..
	County Court Clerk	" .	676 20	.....	676 20	.....	.....
	Surrogate Registrar	" .	1,430 34	.....	1,430 34	.....	.....
STORMONT, DUNDAS & GLEN'Y:							
Cornwall.....	Sheriff.	A. McNab.	2,255 51	.....	.	2,255 51	2,033 09
	Surrogate Judge...	Judge O'Reilly	490 00	.. ..	490 00	1,020 00	490 00
	Local Master.....	"	530 00	.. .. ..	530 00	. ...	443 95
	Crown Attorney...	James Dingwall ...	193 29	.... ..	193 29	836 49	139 84
	Clerk of the Peace.	" ...	643 20	.. .	643 20	.....	357 18
	Local Registrar....	John A. McDougald	95 25	750 00	845 25	2,463 35	.....
	County Court Clerk	"	549 15	.....	549 15	.....	.....
	Surrogate Registrar	"	1,068 95	..	1,068 95	.....	.....
THUNDER BAY:							
Port Arthur..	Sheriff	A. W. Thompson.	1,836 75	1,000 00	.	2,836 75	2,425 28
	Surroga'e Judge...	Judge Fitzgerald ..	189 00	...	189 00	252 80	189 00
	Local Master.....	" ..	63 80	.	63 80	.... .	40 30
	Crown Attorney...	T. A. Gorham	107 80	250 00	357 80	485 71	357 80
	Clerk of the Peace.	"	127 91	. ....	127 91	.	127 91
	Local Registrar . .	James Meek	317 80	450 00	767 80	1,427 18	686 57
	District Court Clerk	"	331 25	150 00	481 25	....	467 20
	Surrogate Registrar	"	178 13	..	178 13	.....	175 48
VICTORIA:							
Lindsay	Sheriff	John McLennan ..	1,831 90	..	. ....	1,831 90	1,239 22
	Surrogate Judge...	Judge Dean .	commuted	500 00	500 00	1,400 00	.... . .
	Local Master. . .	" . .	commuted	900 00	900 00	.. ..	... ..
	Crown Attorney...	A. P. Devlin . ..	334 45	.....	334 45	933 16	203 15
	Clerk of the Peace	" .. .	598 71	.....	598 71	... ..	437 24
	Local Registrar...	Wm. Grace	88 60	675 00	763 60	1,427 34	707 00
	County Court Clerk	"	223 30	.. ..	223 30	.....	185 15
	Surrogate Registrar	"	440 44	.....	440 44	.. ....	427 30
WATERLOO:							
Berlin	Sheriff	John Motz	1,785 46	100 00	.....	1,885 46	1,878 57
	Surrogate Judge...	Judge Chisholm ...	882 70	.....	.... ..	882 70	.....
	Local Master ...	J. J. A. Weir . ..	265 36	.....	. ..	265 36	226 22
	Crown Attorney...	W. H. Bowlby, K.C.	430 10	. ....	430 10	1,589 80	366 60
	Clerk of the Peace.	"	1,159 70	.. ..	1,159 70	..... .	1,099 85
	Local Registrar .	John McDougall ..	331 85	832 15	1,164 00	2,322 28	1,164 00
	County Court Clerk	" ..	482 95	.....	482 95	.....	379 05
	Surrogate Registrar	" ..	675 33	.....	675 33	.....	675 33

Judicial Officers throughout the Province.—*Continued.*

Total received for past year's services.	Total receipts by officer from all his offices.	Total disbursements.	Net income.	Amount paid to Government under 57 Vic. cap. 9.	Actual net income.	Earnings of each officer payable by the Government, the County and the general public respectively.			County.
						From Government.	From County.	From general public.	
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
.... ..	863 97	8 00	855 97	.. ....	855 97	580 54	.....	.....	Rainy River.—*Con.*
... .	.....	.....	.....	.....	.....	275 38	.....	8 05	
.....	1,473 39	135 00	1 338 39	.....	1,338 39	700 00	.....	193 20	
..... .	....	.....	.....	... ..	....	. .....	.....	428 35	
. .. ...	.....	.....	.....	.....	... .	.... .	.....	151 84	
24 80	1,777 56	654 61	1,122 95	.. ..	1,122 95	596 50	557 93	615 74	Renfrew.
.....	272 03	.....	272 03	....	272 03	264 00	.....	....	
2 40	.....	.....	.....	....	.....	....	.....	5 63	
5 00	788 01	37 79	750 22	....	750 22	82 28	.....	47 50	
248 65	.....	...	....	.....	....	82 50	536 65	41 05	
.....	1,307 89	175 00	1,132 89	... ..	1,132 89	600 00	.... ..	68 00	
.....	.....	.....	.....	.....	.....	....	.....	358 00	
.....	.....	.....	.....	.....	.....	.....	.....	281 89	
554 94	2,979 66	1,232 69	1,746 97	.....	1,746 97	1,237 10	598 75	769 59	Simcoe.
.....	585 00	.....	585 00	.. ....	585 00	585 00	.. ....	....	
....	2,879 17	31 86	2,847 31	....	2,847 31	.. ..	.....	323 21	
.....	.....	.....	.....	.....	.....	.....	....	548 35	
.....	. .. ..	.....	.....	.....	... ..	831 32	. ...	.....	
85 33	.....	.....	.. ..	.....	.....	252 80	831 21	6 95	
.....	2,712 39	424 00	2,288 39	107 67	2,180 72	500 00	.....	105 85	
....	. .. ..	.....	.....	.....	.....	.....	.....	676 20	
.....	.....	... .	.....	.....	.....	.. ....	.....	1,430 34	
									Stormont, Dundas and Glengarry.
224 23	2,257 32	1,209 62	1,047 70	.....	1,047 70	683 00	967 85	604 66	
.....	933 95	... ...	933 95	.....	993 95	..... .	.....	490 00	
.....	.....	.....	.....	.....	..	.. ..	.... ..	530 00	
90 00	838 35	53 48	784 87	.....	784 87	183 48	9 37	44	
251 33	....	..	..			167 50	361 83	113 87	
.....	2,463 35	374 30	2,089 05	67 81	2,021 24	750 00	.... ..	95 25	
....	.....	.. ..	.....	.....	.....	. .....	.... ..	549 15	
.....	.....	.... ..	.....	.....	.. ..	..... .	.....	1,068 95	
345 49	2.770 77	608 12	2,162 65	.....	2,162 65	2,277 28	.....	559 47	Thunder Bay.
... ..	232 80	.....	232 80	.....	232 80	....	.....	189 00	
3 50	....	.....	.....	.....	..	....	.... ..	63 80	
62 10	621 42	108 80	512 62	....	512 62	357 80	.....	....	
73 61	.....	.....	.....	.... ..	.....	114 75	.....	13 16	
17 75	1,364 45	43 55	1,320 90	... .	1,320 90	450 00	.....	317 80	
16 30	.....	.... :	....	.....	.....	....	... .	331 25	
1 15	.....	.....	....	.....	....	.....	.....	178 13	
268 88	1,508 10	330 00	1,178 10	.....	1,178 10	596 10	545 21	690 59	Victoria.
.....	1,400 00	....	1,400 00	....	1,400 00	500 00	.....	.....	
.....	....	.....	.....	.....	..	900 00	.....	.....	
34 70	826 81	.....	826 81	.....	826 81	334 45	.....	. .. ..	
151 72	.....	.. ..	.....	.....	..	75 50	437 21	86 00	
32 40	1,511 15	45 00	1,466 15	.....	1,466 15	675 00	.....	88 60	
81 60	.....	.. ....	.....	.....	.....	.....	.....	223 30	
77 70	.....	.....	.....	.....	.....	....	.....	440 44	
87 33	1,965 90	633 73	1,332 17	.....	1,332 17	858 23	483 61	543 62	Waterloo.
... .	882 70	....	882 70	.....	882 70	....	.....	882 70	
73 50	299 72	21 85	277 87	.....	277 87	..	.....	265 36	
138 15	1,684 05	400 00	1,284 05	....	1,284 05	389 85	10 25	30 00	
79 45	.....	.....	.....	.....	.....	150 55	1,000 00	9 15	
26 50	2,266 38	458 00	1,808 38	30 83	1,777 55	832 15	.....	331 85	
.....	....	.....	.....	.....	.....	.....	....	482 95	
21 50	.....	.....	.....	.....	.....	.....	.....	675 33	

APPENDIX F.—Return of fees and emoluments of County

County and town.	Office.	Officer.	Amount earned.	Salary paid by Government.	Total earnings and salary in each office.	Total earnings and salary in all offices.	Total received for present year's services.
			$ c.	$ c.	$ c.	$ c.	$ c.
WELLAND:							
Welland	Sheriff	James Smith	1,850 85			1,850 85	1,588 45
	Surrogate Judge	Judge Fitzgerald	586 50		586 50	657 50	586 50
	Local Master	"	71 00		71 00		
	Crown Attorney	T D. Cowper	537 50		537 50	1,905 07	414 00
	Clerk of the Peace	"	1,367 57		1,367 57		870 00
	Local Registrar	I. P. Willson	151 30	600 00	751 30	1,956 40	722 90
	County Court Clerk	"	303 25		303 25		278 85
	Surrogate Registrar	"	901 85		901 85		901 85
WELLINGTON:							
Guelph	Sheriff	C. McKim & R. A. McKim, acting	2,064 87			2,064 87	1,861 70
	Surrogate Judge	Judge Chadwick	804 75			804 75	
	Local Master	A. M. McKinnon	654 03		654 03	1,530 15	548 54
	Local Registrar	"	126 12	750 00	876 12		876 12
	Crown Attorney	H. W. Peterson	699 11		699 11	2,723 68	539 60
	Clerk of the Peace	"	2,024 57		2,024 57		1,694 64
	County Court Clerk	Wm. Carroll	366 25		366 25	2,020 88	362 27
	Surrogate Registrar	"	1,654 63		1,654 63		1,598 30
WENTWORTH:							
Hamilton	Sheriff	James T. Middleton	3,625 21			3,625 21	2,985 69
	Surrogate Judge	Judge Snider	1,185 90			1,185 90	
	Local Master & Deputy Registrar	J. E. O'Reilly	commuted	3,500 00		3,500 00	
	Crown Attorney	John Crerar, K.C.	2,001 40		2,001 40	3,031 29	
	Clerk of the Peace	"	1,029 89		1,029 89		
	Deputy Clerk of the Crown	S. H. Ghent	369 95	500 00	869 95	4,547 72	827 55
	County Court Clerk	"	1,399 07		1,399 07		1,224 14
	Surrogate Registrar	"	2,278 70		2,278 70		1,994 29
YORK:							
Toronto	Sheriff	J. H Widdifield	6,100 50			6,100 50	5,010 09
	Surrogate Judge	Judge McDougall	2,993 35			2,993 35	
	"	Judge Morgan		666 00		666 00	
	"	Judge Morson		666 00		666 00	
	Crown Attorney	H. H. Dewart, K.C.	3,200 42			3,200 42	2,606 52
	Clerk of the Peace	H. E. Irwin	6,001 33			6,001 33	4,529 74
	Surrogate Registrar	Joseph Tait	5,299 57			5,299 57	
	County Court Clerk	H. E. Irwin, acting	3,863 80			3,863 80	3,853 95
Toronto	Sheriff	Fred. W. Mowat	7,981 19			7,981 19	7,071 66
	Crown Attorney	J. W. Curry, K.C.	commuted	3,500 00		3,500 00	

Judicial Officers throughout the Province.—*Concluded.*

Total received for past year's services.	Total receipts by officer from all his offices.	Total disbursements.	Net income.	Amount paid to Government under 57 Vic. Cap. 9.	Actual net income.	Earnings of each officer payable by the Government, the County and the general public respectively.			County.
						From Government	From County.	From general public.	
$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	$ c.	
390 99	1,979 44	552 00	1,427 44	.....	1,427 44	736 60	713 43	400 82	Welland.
.....	626 50	.....	626 50	.....	626 50	.....	.....	586 50	
40 00	.....	.....	.....	.....	.....	.....	.....	71 00	
237 75	2,085 71	648 64	1,437 07	.....	1,437 07	537 50	.....	.....	
563 96	.....	.....	.....	.....	.....	174 35	1,193 22	.....	
19 10	1,929 40	340 90	1,588 50	8 85	1,579 65	600 00	.....	151 30	
6 70	.....	.....	.....	.....	.....	.....	.....	303 25	
.....	.....	.....	.....	.....	.....	.....	.....	901 85	
69 51	1,931 21	1,102 95	828 26	....	828 26	1,014 84	406 81	643 22	Wellington.
.....	804 75	.....	804 75	.....	804 75	.....	.....	804 75	
56 34	1,481 00	44 60	1,436 40	.....	1,436 40	.....	.....	654 03	
.....	.....	.....	.....	.....	.....	750 00	.....	126 12	
299 00	2,754 00	600 00	2,154 00	15 40	2,138 60	664 11	.....	35 00	
220 76	.....	.....	.....	.....	.....	178 57	1,700 00	146 00	
2 35	1,974 07	266 71	1,707 36	20 73	1,686 63	.....	.....	366 25	
11 15	.....	.....	.....	.....	.....	.....	.....	1,654 63	
503 05	3,488 74	1,692 69	1,796 05	.....	1,796 05	2,085 65	480 30	1,059 26	Wentworth.
.....	1,185 90	.....	1,185 90	.....	1,185 90	.....	.....	‡2,188 90	
.....	3,500 00	200 00	3,300 00	.....	3,300 00	3,500 00	.....	.....	
.....	3,031 29	780 00	2,251 29	25 12	2,226 17	2,001 40	.....	.....	
.....	.....	.....	.....	.....	.....	329 75	700 14	.....	
44 80	4,444 77	757 27	3,687 50	643 75	3,043 75	500 00	.....	369 95	
192 40	.....	.....	.....	.....	.....	.....	.....	1,399 07	
161 59	.....	.....	.....	.....	.....	.....	.....	2,278 70	
1,304 87	6,314 96	2,436 89	3,878 07	.....	3,878 07	4,162 05	804 80	1,133 65	York.
.....	2,993 35	.....	2,993 35	.....	2,993 35	.....	.....	2,993 35	
.....	666 00	.....	666 00	.....	666 00	666 00	.....	.....	
.....	666 00	.....	660 00	.....	666 00	666 00	.....	.....	
1,089 80	3,696 32	897 50	2,798 82	109 76	2,689 06	3,032 40	134 00	34 02	
1,524 16	6,053 90	2,798 00	3,255 90	226 77	3,029 13	1,208 45	4,385 88	407 00	
.....	5,299 57	1,326 45	3,973 12	786 56	3,186 56	.....	.....	5,299 57	
7 10	3,861 05	1,177 75	2,683 30	†59 90	2,623 40	.....	.....	3,863 80	
1,841 53	8,913 19	4,126 74	4,786 45	.....	4,786 45	2,794 96	*1,338 37	3,847 86	Toronto.
.....	3,500 00	.....	3,500 00	.....	3,500 00	3,500 00	.....	.....	

* $764.15 payable by city.
† Amount due at date of death of Hon. A. M. Ross.
‡ $666.00 surplus judges fees paid junior judge by Government.

REPORT

OF THE

INSPECTOR OF REGISTRY OFFICES

FOR THE YEAR

1900.

PRINTED BY ORDER OF
THE LEGISLATIVE ASSEMBLY OF ONTARIO.

TORONTO:
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1901.

WARWICK BRO'S & RUTTER, PRINTERS AND BOOKBINDERS.
TORONTO.

REPORT

OF THE

INSPECTOR OF REGISTRY OFFICES

FOR

1899.

GUELPH, 27th February, 1901.

To THE HONOURABLE J. M. GIBSON,
Attorney-General of the
Province of Ontario.

SIR,—I beg to present my report as Inspector of Registry Offices for Ontario for the year 1900.

With few exceptions, the work of the Registry Offices has been well conducted. The Registrars have generally put into practice the recommendations which I have from time to time made upon my official visits and in my reports, for the more perfect entry of instruments in the abstract indexes and the fuller compliance with the requirements of the Registry Act.

Amongst other matters in which there is still room for improvement in some offices are the following :—

1. Alphabetical indexing, as well as abstract indexing, should be done more promptly. It should be completed as soon as the entries in the abstract index have been made, and these as a rule should be made on the day the instrument is registered or early the following morning.

2. Certificates of registration entered on original instruments should be signed as soon as possible after registration.

3. The marginal entries of registration in registers ought to be promptly signed either by the Registrar or his deputy. This should be done as soon as the instrument has been copied or entered in the register. It should not be deferred until the copies have been examined.

4. New registers, etc,, to be promptly certified by County Judge or Warden, etc.

5. Completed registers should as soon as completed be verified by statutory declaration.

6. Marginal notes in registers and certificates of registration on original instruments ought to be in clear and distinct type if printed—not blotted or smudged.

7. Where there is a codicil to a will registered, the fact should be noted as well as registration of will.

8. Where a plan is attached to a deed and is declared to form part of it, the plan as acknowledged in the deed ought to be copied into the register.

9. Where consideration in deeds is stated to be "the premises," and a money consideration or performance of covenants, or the like, the fact that there is more than a money consideration should be noted in abstract index.

10. Where deeds are approved by an officer of court or public official, the fact should be noted in the abstract index.

11. Words on mortgage "Not to be registered in full," printed on mortgage forms by law stationers and not authenticated, should not be considered properly endorsed. Where, however, the names of solicitors are printed on the mortgage as Solicitors for the Mortgagee, I have considered that to be sufficient authentication under the statute.

12. Where deeds are "to uses" the fact should be carefully noted in abstract index.

13. Corrections in red ink should be signed by the Registrar or deputy, not merely initialed.

14. Registrars should be particular to see that the numbering of instruments is consecutive.

I recommend that where there is a substantial surplus of fees I should be empowered to authorize the Registrar concerned to expend the same, or so much thereof as may be necessary, in Registry Office improvements, such as replacing wooden by metal fittings, providing for a proper system of heating and ventilation for the vaults, and the like. Several of the offices are much in need of such improvements, and in some the writing in original documents in vaults is becoming obscure through dampness and mould.

I append some notes of decisions and opinions which I have given since my last report.

The returns from Registrars show the following :—

Total number of instruments registered in 1899	119,991
" " " 1900	119,941
Decrease.....	50
Gross amount of fees received in 1899	$186,069 90
" " " 1900	184,326 21
Decrease.....	$1,743 69

There has been a falling off in the number of mortgages registered and the aggregate amount thereof, as follows :—

	No. Mortgages Reg.	Amount.
1899.....	28,821	$38,640,022 55
1900.....	27,867	37,501,176 13
Decrease.....	954	$1,138,176 42

I have the honor to be, Sir,

Your obedient servant,

(Sgd.) DON. GUTHRIE,

Inspector R. O.

DECISIONS BY DONALD GUTHRIE, K.C., INSPECTOR OF REGISTRY OFFICES.

Fees for Abstract of Part of a Lot—Duty of Registrar in Making Entries of Descriptions of Land in Abstract Index—References to Copies of Instruments.

Mr. A. B., Barrister, has disputed the fees charged by a Registrar for an abstract of Title, and the matter has been referred to me

The question in difference is as to whether the Registrar was or was not entitled, in connection with the preparation of an abstract of a part (50 feet frontage) of a strip of land about 1,200 feet long, extending from one street to another, and not subdivided by plan, to make references to all the instruments affecting the strip which were registered subsequently to the date from which the abstract was required. There were some fifty-two instruments registered against the strip of land referred to, subsequently to the date mentioned. It turned out, in fact, that there were only three documents entered against the piece of the long strip of which Mr. B. desired an abstract. The Registrar considered it necessary to refer to the fifty-two documents in preparing the abstract.

I thought it better to defer a decision until I should have an opportunity of personally inspecting the abstract index and books. Since doing so, I have considered that the Registrar was fairly entitled to make thirty-two references to the copies of instruments in connection with the preparation of the abstract.

I allow as follows :—Searches, $1.65 ; writing, two folios, 40c ; total, $2.05.

Where the instruments affect only part of a lot not divided by plan, and the descriptions of the land are involved, complicated, indefinite, or otherwise not clear, is is difficult, if not impossible, to make such entries in the abstract index of the description of the parts affected as will, in the searching of the title, dispense with the necessity of references to the copies of the instruments. I think that a Registrar, in every such case of doubt, is entitled to make such a reference. But, where an instrument affects by description a definite part of a lot, as a half, or a quarter, or the like, or affects a part which is so clearly defined in the instrument as to render it practicable to enter in the abstract index such a sufficient description of the lands as will readily identify its location (see Section 36 of the Registry Act), it is the duty of the Registrar so to enter it ; and if he has done so he should not require, in searching one part of a lot, to refer to any instrument which from such entry appears not to affect that part, but some other part totally different ; and if he has neglected so to enter the description in the index when it was practicable to have entered it, he should not be allowed a fee for a reference to any such instrument which does not affect the part of the lot being searched : because such reference would not have been necessary had the Registrar complied, where he could have complied, with the provisions of Section 36.

I say nothing here as to a defective description of part of a lot entered in the abstract index by a predecessor of the Registrar giving the abstract.

Copies of Registered Instruments Affecting Same Lot May be Verified by One Certificate if Applicant Does Not Require Separate Certificates on Each Copy.

A difference has arisen between a Registrar and Messrs. B. & F., Solicitors, which has been referred to me.

It appears that in a proceeding under the Quieting Titles Act it was necessary for the Solicitors to order a large number of certified copies of registered instruments—twenty in one matter—and they requested the Registrar to give one certificate covering the whole of the copies. This the Registrar declined to do. His contention was that there should be a separate certificate on each copy of each instrument, and that he was entitled to charge as for a separate certificate in respect of each copy.

The copies were required for one proceeding, and affected one lot on the Abstract.

The Solicitors' view is, that to put a separate certificate on each instrument unnecessarily increases the expense of proceeding under the Quieting Titles Act, and that one certificate would answer all the requirements of the Act. They also contend that they are entitled to order or require either a separate certificate for each instrument or a general certificate covering the verification of the whole series of instruments, as they may see fit. The Registrar states that in preparing and putting separate certificates on each instrument he has followed the universal practice of Registrars in Ontario. In this particular, I think his statement is probably correct, but his further statement that it is also the practice in other public offices, i.e., offices of the Courts, I do not altogether agree with.

The Solicitors say that it is a very common matter for the officers of the Courts, both at Osgoode Hall and in the County Towns, to make copies of all the pleadings and proceedings in one action and attach one certificate to the whole; and they point to the case of a record as a very common instance of this. I think the case of a record, which is a copy of the various pleadings, is not entirely analogous. Where certified copies of exhibits are furnished, I rather think the practice has been to put a separate certificate on each copy. There may be no general practice either way with regard to exhibits.

The Registrar states that the copies were prepared and certified under Section 28 of the Registry Act, and he contends that the language of that section applies only to a certificate with each instrument. He further contends that if he were to certify all the copies in one certificate it would be, in effect, a number of certificates for one signature and seal, and would necessarily be a very long and elaborate affair. In the case in hand some twenty documents require to be certified, and the Registrar's view is, that if one certificate of these twenty documents were prepared, it would necessarily require to state all the particulars of the registrations in one certificate, that it would be very long, extending perhaps to twenty folios, for which a fee of twenty-five cents would be a very inadequate fee.

Sub section 5 of Section 118 of the Registry Act provides that for copies of instruments, when required, ten cents for each 100 words shall be payable. I think this means true copies, and would necessarily include comparing the copies. Sub section 6 of the same Section provides a fee of twenty-five cents for a certificate furnished by the Registrar.

I take it that this means furnished on request.

Section 27, Sub-section 1, provides that the Registrar shall, when required, furnish copies of all instruments, etc., and shall give certificates of all copies of such documents.

By Section 28 it is enacted that every Registrar shall have a seal, etc., and shall on request of any person, furnish under his hand and seal an exemplification or certified copy, and such exemplification or certified copy shall, subject to Section 47 of the Evidence Act, be received as *prima facie* evidence, etc., in every Court in Ontario.

I think it clear that only such certificates as are required by the applicant are to be furnished. These must, of course, be certificates such as the Act authorizes.

An abstract is a certified series of abstracts of or extracts from the several documents that affect the title. Supposing that a person, instead of requiring a mere abstract, told the Registrar that he desired to have all the instruments affecting a particular title copied in full on one sheet (or series of sheets) and certified; why should he not be in a position lawfully to make such a request?

If a man may have a series of extracts from or particulars of the various instruments under one certificate called an abstract, why may he not have a series of full copies of the instruments certified under one certificate, if he so desires?

On the whole, I am of opinion that the Solicitors' contention is correct, and that the Registrar, where required to do so, should certify, in something like the same form as he certifies to an abstract, to the various copies of instruments required which affect any one title. For instance, he may certify to the following effect:—

Registry Office, County of A.D.

CERTIFIED COPIES OF INSTRUMENTS.

I certify that the above (or following) are correct copies of the instruments numbered , recorded in this office, which mention or refer to (describe property sufficiently for identification).

Dated at this day of A.D.

There need be no difficulty in mentioning or identifying the instruments, because it can be done by reference to the numbers.

I decide this dispute accordingly.

Registration of Will Both in General and Separate Registers.

A Registrar has referred to me a difference between himself and Mr. W., a Solicitor, arising under the following circumstances :

By his will one C, domiciled in the County of Z, devised certain lands by local description. The will has been registered in the Registry Office of the County of Z. It has also been sent for registry in the Registry Office of the County of X because there is a specific devise of lands in the Township of A in that county. The Registrar of X contends that the will should be registered not only in the Separate Register for A, but also in the General Register for the County of X. The Solicitor's view is that this double registration is unnecessary, and that registration in the separate books for A is all that is necessary.

The following are the parts of the will bearing on the question : In the earlier part of the will the testator says as follows :—"I give, devise and bequeath all my real and personal estate of which I may die possessed, in the manner following, that is to say,—" (here follow several devises and bequests) ; then at the end the will goes on as follows,— "All the rest of my estate not hereinbefore disposed of I give, devise and bequeath unto my wife Margaret."

There is nothing whatever in the will to indicate that the testator owned any real estate in the County of X, except what he specifically devised situated in the township of A, of which this will contains a local description.

I have given an opinion in several cases of a similar description, that where there is a devise of land by local description, and also a residuary clause similar to the one in this will, the fact of registration in the county in which are situated the lands referred to in the will by local description would not entitle the Registrar of that county to insist on putting that will also in the General Registrar of his county, unless the will showed that the testator really owned other lands or estate in that county.

I am of opinion that Section 29 of the Registry Act, relied upon by the Registrar, regarding the registration of a will in the General Register, in which there is a general devise affecting lands without local description, does not apply here, because this will does contain a devise of land with a local description in the county of X, and it does not show that the general devise affects any lands situate in the county of X, and it would be necessary so to show in order to justify registration in the general register of that county. The circumstance that the will is offered for registration in the county of X is explained by the fact that it contains a specific devise of lands in the township of A in that county by local description.

If a testator devised lands in many different counties by local description it would be necessary to register the will in all thsee counties in the different appropriate separate registers thereof, but it could hardly be successfully contended that, because of the presence of a general devise such as the one here, each of the Registrars was entitled, and indeed, of necessity compelled, to also register the will in the general register of his county, upon the mere assumption (not supported by anything in the will) that possibly the testator, in addition to the lands he had specifically devised, might have some interest in some other lands in each of these counties.

I decide this dispute in favor of the Solicitor, upon the ground indicated, and without considering other grounds of objection which may possibly exist to the charge for double registration.

JUDGE'S ORDER AMENDING REGISTERED PLAN—CLOSING OLD LANE—OPENING NEW LANE —RECOMMENDATION AS TO FILING AN AMENDING PLAN WITH ORDER—FEES.

In the Matter of the Registrar of the County of X
and
Messrs. A, B & C, Solicitors.

This matter comes before me under the following circumstances :

The Solicitors registered in the Registry Office of the County of X an order made by the Judge of the County Court of that County under Section 110 of the Registry Act. By that order the Judge ordered that a certain registered plan of subdivision of lands into lots in the City of Y should be amended by closing up the lane or alley-way running in the rear of Lots 185 to 226 inclusive and of Lots 235 to 276 inclusive, and also that part of the land running north and south in the rear of Lots 227 to 234, being that part of the said lane lying immediately to the west of the south 12 feet of Lot 230 and of the north 12 feet of Lot 231, and opening a lane comprising the northerly 10 feet of said Lot 230 extending from Z street to the lane in the rear of said lot, with a 3 foot triangular cut along the south-west corner of Lot 229 to be included in the said lane. And the Judge, by the same order, directed the Registrar of the County to amend the said plan as registered accordingly.

The Registrar contends that the order is an instrument requiring registration as other instruments against every lot which it affects ; and he has, acting on this view, entered it against each lot mentioned in the order.

He considers that the registration of the plan gave to the owner of each of the lots mentioned in the order an interest in the lane closed, and therefore these lots are directly affected by the lane being closed. He points out that the plan appears against the lots, and it follows, he thinks, that any alteration should also appear. Unless the amendment be referred to in the index of the lots, he does not think there can be proper notice of it. He says he entered the order as he would have entered an amending plan. He intimates that this seems to have been the course taken by his predecessors.

The Solicitors' view is that the lane closed formed no part of the adjoining lots, and that it was sufficient for the Registrar to make a note upon the plan to the effect that it had been amended by the Judge's Order ; and they consider it was unnecessary to enter the Order in the abstract book against each of the lots mentioned in the Order.

They admit, of course, that the Order should be entered against Lots 230 and 229, as the Order provided for opening a new lane across parts of these lots.

I am of opinion that, the Order having been registered, the fees for the registration thereof are those fixed by Section 118, Sub-section 1 of the Registry Act. The Order is an instrument affecting lands ; the charges for it, therefore, should be the ordinary charges for an instrument such as a deed. But I do not think the Order so affects the lots in rear of which the closed lane ran as to require that it shall be specially entered in the abstract index against each one of the lots. These lots are merely referred to in the Order for the purpose of defining or describing the lane to be closed.

I therefore do not think that the Registrar is entitled to extra fees for entering the Order against the lots mentioned therein. It was proper, of course, to make entries against Lots 230 and 229.

In connection with the direction contained in the Order for the opening of a new lane, I think it would be better that such an order should direct the filing of a new plan, *i.e.*, as a matter of convenience, because I do not think that Section 110 imperatively requires the filing of a new plan in such a case.

I recommend, therefore, that in future, where a Judge's Order creates new lots or opens new streets or lanes, it would be well that the Order should direct that the party obtaining it should register an amending plan, or an amending plan should be attached to or accompany the Order.

I have also been asked to say what is a reasonable fee to be allowed to the Registrar for opening the new pages in the abstract index in respect of the closed lane. With respect to the Registrar's claim for this fee, the Solicitors say that if the service is one for which the Registrar is entitled to charge the parties bringing the instrument into his office, they are quite willing to pay the same.

I think it is a service for which, under the circumstances, the Registrar should have $1.00. As I understand it, he has charged only 50 cents for registering the Order.

The Registrar also considers that he should have a fee of $1.00 for marking on the plan the changes made by the Order, *i.e.*, the closing of the old lane and the opening of the new, and for otherwise amending the plan and entering or noting the Order thereon.

The Solicitors do not seem to object to his claim in this respect, and I think $1 00 is a reasonable fee therefor.

The result is that, while I do not consider the Registrar entitled to the extra charge of $4.50 he made for entering the Order in the abstract index against the 90 lots, I allow him $2.00 for the special work above referred to, in addition to the charge of 50 cents (being the charge made for registering the Order); and I decide the matter accordingly.

DISCHARGE OF MORTGAGE UNDER SPECIAL ACT—MORTGAGE TO THE CANADA PERMANENT LOAN & SAVINGS COMPANY DISCHARGED BY THE CANADA PERMANENT & WESTERN CANADA MORTGAGE CORPORATION.

The Canada Permanent & Western Canada Mortgage Corporation caused to be tendered to the Registrar of the County of X for registration a statutory discharge of mortgage made by A and wife to The Canada Permanent Loan & Savings Company, and the Registrar declined to register it, upon the ground that the discharge was executed by a different company from the company to whom the mortgage was made, and that the discharge does not give the particulars of registration of title required by Section 73 of the Registry Act. The solicitors for the Mortgage Corporation refer to Chap. 129 of 63 Victoria, being "An Act respecting the Canada Permanent & Western Canada Mortgage Corporation." Under Section 5 of that Act it is provided that for the purposes of the Registry Act it shall be sufficient, in order to show the transmission of title from any of the selling companies to the Mortgage Corporation of any instrument affecting lands or interests in lands included or intended to be included in the several agreements confirmed and validated by that Act, to recite or mention the title of the Act and chapter and statute year in which the Act was passed.

The discharge in question does recite that the mortgage to the Canada Permanent Loan & Savings Co. had been transferred to and is vested in the Canada Permanent & Western Canada Mortgage Corporation by virtue of the special Act, Chap. 129, above referred to. The recital in the discharge complies with Section 5, Chap. 129 That Act ratifies an agreement by which, amongst other things, the property of the Canada Permanent Loan & Savings Company, one of the selling companies, is transferred to the Mortgage Corporation. The language of the Act covers this A. mortgage, and by the Act the mortgage is declared to have been, from April 11, 1900, transferred to and vested in the Mortgage Corporation. The transfer is what may be known as a Parliamentary transfer giving the new Corporation a complete title to the mortgage.

This Act, Chap. 129, is a public Act of which Registrars have to take notice. The discharge in question ought to be registered in the form in which it has been tendered for registration, and it is not necessary that it should contain any other recital, nor that any instrument or certificate of any instrument of assignment should first be registered. I decide the matter in difference accordingly.

A Registered Agreement by a Mortgagee Binding Himself to Accept a Less Sum than the Mortgage Debt is not a Cloud on the Title after Mortgage is Discharged.

A matter in difference between the Registrar of the County of G, and Mr. D, Solicitor, has been referred to me

A mortgage in favor of one B for $1,050 was registered in the Registry Office of the County of G. Subsequently the mortgagor and B entered into an agreement, which was registered as No. 5534, the effect of which was that B, the mortgagee, agreed to take less than the amount of his mortgage if the reduced amount should be promptly paid on or before the date named, and on such payment the mortgagee agreed to discharge the mortgage.

The mortgagee subsequently did discharge the mortgage and thus released the land not merely from the reduced amount agreed to be taken under the instrument 5534, but from the whole mortgage debt The effect of the discharge of the mortgage is to re-convey the land to the mortgagor freed from the mortgage.

The agreement was not a mortgage, nor was it a further charge, nor indeed was it an independent instrument at all which required a separate discharge. It did not really encumber the land; when the mortgage was discharged the agreement had fulfilled its purpose and could no longer have any operation or effect It is not now in any way a cloud on the title.

I therefore consider it unnecessary to register any further instrument to show that the agreement has ceased to operate On the other hand, there perhaps is no objection to the registration of some instrument to that effect if the parties so desire, but I think any such instrument must describe the land, and I do not think the instrument can properly be registered as a discharge of mortgage, but may be by reference to the date of registration of the agreement, etc.

The proposed discharge of agreement which has been submitted to me may be registered if desired, provided it is amended by inserting in it a description of the lands. I think. however, the fee for registration should be the ordinary fee for registration of an instrument, viz., $1.40.

Registration of Agreement between Townships Respecting Maintenance of Township Boundary Road.

Some questions have been referred to me for my opinion which have arisen between the Registrar of the County of X and Mr. K, Solicitor, in connection with the registration of an Agreement for the maintenance and repair of a township boundary road, entered into under Section 625, Sub-section 1, of the Municipal Act, and confirmed by by-law under Sub-section 2 of the same section. The Agreement is one between the Township of A in the County of X, and the Township of B in the County of Y, and relates to the road forming the boundary line between them.

The questions, as stated to me by the Solicitor in his letter, are:—

1. Assuming that both the Agreement and confirmatory By-laws require to be registered, should they be registered together as forming one instrument for registration purposes, or should they be registered as separate instruments?

2. Where in the registry books should they be recorded?

Section 625 (2) of the Municipal Act requires that the Agreement authorized by Sub section (1) shall, where confirmed by By-law of the Council of each of the contracting townships, be registered in the Registry Office in the manner provided by Sub-section (1) of Section 633 of the same Act Sub-section (1) of Section 633 provides that by-laws under the authority of which roads are opened through private property shall, before becoming effectual, be registered. Thus far, this sub section requires due registration as essential to the validity of the by-law.

The remaining part of Sub section (1) of Section 633 enacts that for the purposes of registration a duplicate original of the by-law, or a copy certified under the hand of the Clerk and the Seal of the municipality shall be registered without any further proof.

A By-law under Section 633 (1) for opening a road through private property must describe the property in such a way as to comply with the requirements of the Registry Act in that behalf, and such a by-law would upon registry be entered in the abstract index and copied into the appropriate Register.

The Agreement here, because it does not affect private property, cannot in all respects be registered in the same manner as a by-law under Sub-section (1) of Section 633, but it can be authenticated for registration in the same manner as a road opening by-law, and that I think is what is meant by the words of Sub-section 2 of Section 625 requiring the agreement to be registered in the manner provided by Sub section 1 of Section 633

The agreement confirmed by by-law is the instrument which must be registered in some way ; but how ?

I think it cannot properly go into the General Register, but it should be registered at full length in the separate register for A. See Sections 60 and 65 of the Registry Act. It has already, as I understand the Registrar, been entered in the abstract Index for A under the heading "Miscellaneous." I approve of that, and I think it would be well also to enter the Agreement in the Alphabetical Index. I do not disapprove of what the Registrar has done in noting it in the by law book, because, although that book is for debenture by-laws, it is probably the book which persons searching for such a by-law as the present would be likely first to ask for.

I think the agreement with confirming by-laws should, for registration purposes, be treated as one instrument.

I allow the fees for registration thus : —

Registration and one certificate	$1 55
Extra certificates (2)	.50
Extra work in noting by-law book	.25
	$2 30

ABSTRACT OF PART OF LOT—COPYING INTO IT FULL DESCRIPTIONS OF LANDS—UNNECESSARY ENTRIES OF INSTRUMENTS AFFECTING OTHER PORTIONS OF LOT—DUTIES OF REGISTRARS.

Differences regarding an abstract and the proper fees therefor have arisen between a Registrar and a Solicitor, and have been referred to me.

The Solicitor wrote a letter to the Registrar stating that he sent a mortgage from B to C, with a request to register same and to send him an abstract of title of the parcel firstly described in the mortgage, subsequent to but not including the mortgage thereon to a Loan Company named. The Solicitor stated that the last-mentioned mortgage was still subsisting, but he did not know its registry number.

The mortgage, B to C, covers, firstly, a parcel of 32½ acres, being part of the north part of Lot 30 in the 8th concession of the Township of X Lot 30 is a 200 acre lot. It is a long lot having a frontage on the concession roads on south (or front) and north (or rear) of 20 chains, by 100 chains in length The part of Lot 30 included in the C mortgage is, according to the description, a part of the north half almost square in form, excepting the north-east corner of about 4 acres, which appears to be the property of one D. It is quite clear from the description that the parts of 30 included in both the C and the Loan Company mortgages are the extreme northerly portions of the north half of the lot, and consequently do not come anywhere near the south half of the lot.

An abstract was furnished to the Solicitor of part of the north part of Lot 30 8th cession, 32½ acres more or less, since the mortgage to the Loan Company.

The fees charged for this abstract are :—Searches, 65 cents ; writing, $1 45—$2.10. The Solicitor objects to these fees, and the matter has been referred to me.

The objections are that the abstract contains verbatim copies of descriptions of the lands covered by instruments Nos. 3 822 and 6,644, which description the Solicitor says he "did not order and did not want" No 3,822 is a deed from the mortgagor in the Loan Company mortgage, and the description of land is the same as the description in that mortgage, with the exception, so far as the abstract shows, of 2 acres. As the description is not, apparently, quite the same as in the Company mortgage, and as the Solicitor does not appear to have had that mortgage, and, further, as the description is somewhat peculiar, I think the Registrar was justified in giving this description in full in the abstract. No. 6,644, the other description copied verbatim into the abstract, is that contained in the new mortgage to C. As the Solicitor had himself sent that mortgage for registration in the same letter as he ordered the abstract, I scarcely think it was necessary to copy at length the description from it into the abstract.

The Solicitor's second objection is that the Registrar has included in the abstract extracts from a number of instruments which he thinks could not possibly affect the lands in question.

This objection applies to extracts from some instruments which, according to the abstract, affect all that part of Lot 30 lying south of the road leading to Y, 75 acres more or less The Registrar has, at my request, furnished a full copy of those descriptions. They read thus :—

"That parcel of land containg 75 acres more or less and being all that part of lot number thirty in the eighth concession of the township of X which lies south of the road leading to Y which crosses said lot."

This includes all of lot 30 which lies south of the road, and as the parcel contains only 75 acres it could not affect any part of the north half of north 100 acres. At any rate, this 75 acres could not possibly affect the 32½ acres forming the extreme north part of the 200 acre lot. The Solicitor says the County atlas clearly shows that the road to Y is through the south half of the lot. The Registrar replies to this that he has not got a County atlas, and that he would not consider it a safe guide in making abstracts if he had one. I agree with him in that ; but a Registrar must use some judgment in preparing an abstract of a comparatively small portion of a large lot so as not unnecessarily to encumber it with entries and unnessarily to increase the expense. For instance, supposing an abstract had been ordered of the four acres owned by one D at the extreme north-east corner of this 200 acre lot, would the Registrar have a right to include in such an abstract all these ten entries referring to the 75 acres being all that part of the lot south of the Y road ? Surely no one could fairly so argue ; and why ? Because the south 75 acres must be a long distance away from the north-east corner. But this south 75 acres is a part of the lot as clearly a long distance away from these 32½ acres. I do not, therefore, consider that it was necessary to include in the abstract any of the entries relating to the 75 acres. I think both the 32½ acres on the one hand, and the 75 acres on the other are distinctly separate parts of a lot which are "clearly described and can be identified in connection with the chain of title." See Section 27 of the Registry Act.

I therefore allow fees as follows :—

Searches	$ 30
Writing—say 4 folios	70
In all	$1 00

Discharge of Mortgage made to One of Two Amalgamated Loan Companies Amalgamated under Dominion Act—Recital Necessary.

My opinion has been asked upon the following question :—A Discharge of Mortgage has been sent for registration by Messrs A, B & C, Solicitors, Toronto, to a Registrar, and the latter declines to register it because the Company has not complied with what is required by Sub-section (b) of Section 3 of Chap. 19, 63 Vic (Ont) The discharge in question is executed by The Canada Landed & National Investment Co., Limited It is of a Mortgage made by one L to The Canada Landed Credit Co. in the year 1877, and the Discharge recites that The Canada Landed Credit Co. is now The Canada Landed & National Investment Co., Limited.

The solicitors' view is that, as the Canada Landed Credit Co. and the National Investment Co. of Canada, Limited, were amalgamated in 1891 and a charter was granted to the amalgamated company by the Dominion Government under the name of the Canada Landed & National Investment Co , Limited, and the securities of the two companies thereby became vested in the new company, the latter are in fact the mortgagees They also mention that they have registered many hundred of Discharges in exactly the same form as the one in question, and no question has been raised heretofore. They also point out that the amalgamation took place long before the passing of Section 78, R S.O., Chap 136, and, of course, also before 63 Vic., and they do not consider that the latter section applies to their company, but has only reference to companies amalgamated under the Ontario Loan Corporations Act.

Section 100 of the Dominion Companies Act, as amended in 1887, dealing with the amalgamation of companies, provides that upon an amalgamation such as was effected in the case of the two companies above mentioned, the old companies are called the selling companies, and the new company the purchasing company; and it provides that in dealing with the assets of the companies selling it shall be sufficient for the company purchasing to recite the agreement for purchase, etc., and the filing thereof in the office of the Secretary of State of Canada.

So far as I have seen, there is no provision in the Dominion Act for registering a certificate of amalgamation in a Registry Office, as there is in the Ontario Act.

My view is that the Discharge in question will be sufficient if it contains a recital showing the agreement for amalgamation and the filing of it in the office of the Secretary of State of Canada; and I do not consider it is necessary, as the amalgamation was effected under the Dominion Act, prior to the passing of the Ontario Act of 1895, that a certificate of amalgamation should be registered. I recommend, therefore, that the necessary recital be added to the form of Discharge, and upon the re-execution thereof with this recital, that the Registrar accept and register the same.

Fee for Registering Discharge of Mortgage Covering Lands in more than One Municipality.

A difference has arisen between a Registrar and certain solicitors as to the fee charged by the Registrar for registration of a Discharge of Mortgage. The fee charged was 80 cents, and the solicitors contend it is too much.

The Discharge was of a mortgage covering lands in two municipalities in the Registry Division and had, therefore, to be registered in the separate books for these municipalities. The instrument contained 290 words, or about 3 folios. Having to be copied into two books, the copying came to 6 folios in all.

The Registrar bases his claim upon Sub-section 12 of Section 118 of the Registry Act as amended by 62 Vic. (2), Chap. 13, Section 21, contending that under this the aggregate copying was 6 folios, and that his fees therefore were :—

Discharge—3 folios	50 cents.
3 additional folios.....	30 "
	80 cents.

The Solicitors' view is that, as the Discharge itself was only 3 folios, the fee should be 50 cents and no more, and that the amending Act referred to, 62 Vic. (2), Chap. 16, does not provide for an additional fee over 50 cents for the registration of a Discharge of Mortgage unless the document itself exceeds 300 words, and that the Registrar is not entitled to charge any extra fee under 62 Vic. merely by reason of the lands being in different municipalities.

I think the charge made by the Registrar is based upon a correct interpretation of the Act. The amendment made by 62 Vic. provides not only for the case of a certificate being itself over 3 folios, but for the case of a certificate which has to be copied into more than one book. It means that in the case last mentioned the amount of copying in each book shall be added together and the aggregate or whole number of folios of copying thus ascertained. It provides that the Registrar is to be allowed 10 cents per folio of copying over 300 words. Here there were 6 folios of copying, for the reason mentioned.

I decide this dispute, therefore, in favor of the Registrar.

FEES FOR ABSTRACTS OF SEVERAL LOTS WHERE ENTRIES PARTLY IDENTICAL—UNNECESSARY REFERENCES, AND REPITITION OF LENGTHY DESCRIPTIONS OF LANDS—FORMS OF CERTIFICATES ON SUCH ABSTRACTS.

Some differences have arisen between a firm of Solicitors and a Registrar, which have been referred to me. The circumstances are as follows :—

The Solicitors sent to the Registrar a mortgage for registration, over Lots Nos. 14, 15 and 16, North of the X Road in the township of E in the County of Y, containing 300 acres more or less, excepting thereout those portions of the lots which had been sold and conveyed to the Crown for the purposes of a Canal. They at the same time asked the Registrar for an Abstract of Title to the lands described in this mortgage since No. 5582.

In reply the Registrar sent four Abstracts of Title, charging $1 15 for each Abstract. These Abstracts and the fees charged therefor were objected to. One point of objection was that the entries on the several lots were partly identical, and in preparing this set of abstracts the Registrar, as he afterwards candidly admitted, had overlooked the provisions of Section 18, Chap. 16, 62 Victoria (2).

A second set of Abstracts was furnished by the Registrar and the first set was returned, and it is in respect to differences as to the fees charged for, and the form and contents of, this second set that I shall consider the matter. The Solicitors' objections may be summarized thus :

(1) The Registrar charged fees for references to instruments for or in connection with the preparation of each of the four Abstracts, although in many instances the instruments required to be referred to only once, because they covered two or more of the lots. The Solicitors say where a Registrar is preparing Abstracts of several lots and the entries on such lots are partly identical, he should not charge for more than one reference to any instrument, although the same covers two or more lots. The Registrar's view is that he has to search each lot separately and has to refer each time to all the instruments entered on the index of each lot, and is entitled to charge accordingly. He refers to a decision of mine given in 1897 in support of his view ; but that was given before the Act 62 Vic. (2) Chap. 16, and is not now applicable.

The meaning of Section 18 of Chap. 16 is that, although the property for which an Abstract is required consists of two or more lots, the Abstract is, as far as possible, to be prepared as if the property consisted of one lot. Entries are not to be unnecessarily repeated, nor are there to be unnecessary references. In the case here, for instance, the Instrument 5980 refers to the three lots. Surely, under Section 18, the abstract required being of these three lots, it was not necessary to refer to this Instrument more than once. The reference to the Instrument made when preparing the abstract of the first lot would show that it affected other lots, and when the Registrar came to prepare the abstract of the other lots he would know, because he had already by reference as-

certained the fact, that the particular instrument affected other, and what other, lots, and it did not require to be abstracted nor, I think, referred to the second time. Supposing the abstract asked for were for a great many, say forty or fifty lots, would it be reasonable to say that it would be necessary for the Registrar to ascertain by reference over again forty or fifty times that certain instruments affected the whole of the lots? Under Section 18 a Registrar is required to make a full abstract for one of the lots and enter in the same all the lots to which each instrument refers. Of course, all necessary references should be allowed in preparing the full abstract of one of the lots, but in preparing abstracts of the other lots I think the Registrar need not refer to nor abstract instruments referred to and abstracted. The Registrar, of course, conceded that he could not be allowed for repetitions in *abstracting* such instruments; neither, I think, can he be allowed for repetitions in the making of references to them.

(2) The next point raised by the Solicitors is this: a Deed, No. 5980, was abstracted in the first abstract, and upon this abstract the Registrar copied from the Deed a long description of the land by metes and bounds. This description was of the part conveyed by G.M. to Her Majesty the Queen for canal purposes. The next Instrument abstracted on the same abstract was a partial Discharge of Mortgage, No. 6004, and the Registrar again copied into the abstract the same long description by metes and bounds, except that at the end the words are added—"being all these portions of the said parcels of land heretofore conveyed by G. M. to Her Majesty the Queen."

Immediately following the entry of this partial Discharge of Mortgage is the entry of a second partial Discharge, No. 6005, being of another mortgage on the same lands, and again the Registrar repeats or copies, for the third time, on the abstract the same long description by metes and bounds.

The Solicitors contend that the Registrar should not, unless requested to do so, copy into the abstract the second and third of those descriptions and charge for increased folios in abstract, and that it would have been sufficient for the Registrar to have briefly stated in the abstract that the lands described in the second and third instruments were the same as those described in the first instrument.

The Registrar's view is, that if he were to say that the descriptions were the same he would be an expressing an opinion on the title. In this I do not agree. He would merely be stating a fact. He has constantly to do similar work in comparing instruments, in making entries in his abstract indexes, and in preparing abstracts.

He further thinks he would thus be compelled to compare these descriptions without remuneration; but he is paid for making references and ascertaining what an Instrument contains. His abstract indexes probably showed that the descriptions were the same; if not, I think they should have shown it. I notice also, in preparing the first set of abstracts, when he was asked not to include the land conveyed to the Crown, that the Registrar left out these three instruments with the long descriptions, because they all related to the land conveyed to the Crown. He had no difficulty, then, in determining that all these descriptions referred to the same lands.

I am of opinion that it was unnecessary to repeat these lengthy descriptions three times in the abstract.

The Registrar lays some stress on the form of certificate to be given with abstracts as set forth in Section 27 of the Registry Act, because this form states that the following are correct "extracts" from the only instruments, etc., and he contends that to state that the second and third descriptions were the same as the first would not be giving "extracts," i.e., verbatim extracts. The word "extracts" has always received from Registrars (including the Registrar here) and Solicitors a wider meaning than the narrow one the Registrar now wishes to give to it. For instance, in these very abstracts, the Registrar describes the various instruments as, "Assignment of Mortgage 3584," etc. That is not a verbatim extract from the instrument: it is a short description of the instrument; so in describing the other instruments in these abstracts as "Deeds," "Partial Discharges," etc. Section 27 of the Registry Act makes it the duty of the Registrar, *inter alia*, to furnish *abstracts* of and concerning all instruments, etc. The word "extracts" in the certificate form means more, evidently, than mere verbatim copies of parts of any instrument; it means particulars or facts extracted or epitomised from the instruments as to their nature and contents, registration date, etc.; in other words, "extracts" from the instruments mean "abstracts" of the instruments as ordinarily understood.

The Registrar states that the long description by metes and bounds did not lend itself to condensation. Conceding this as to copying it from the first instrument, surely it must be admitted that the descriptions from the second and third instruments could be condensed in the way indicated.

(3) Another point of difference is as to the terms in which the Registrar gave certificates upon the second set of abstracts, the Solicitors complaining that the form of certificate is ambiguous. Of course, my opinion on this question has not the force of a decision, as the dispute is not regarding fees; but, as my opinion has been asked for, I will give it.

The Registrar drew up the first certificate, i.e., on the abstract of the first lot, in the words following: "I certify that the following are correct extracts from the only instruments recorded in this office which mention or refer only to the North Part of Lot No. 14 North of the X Road in the Township of E (in connection with an abstract of this date of—in part) aforesaid North Part of Lot No. 14, the South part of Lot No. 14 and Lot No. 15 and Lot No. 16 all North of the X Road in the aforesaid Township of E since Registry No. 5522—under Sec. 18, Chap. 16, 62 Victoria."

The certificates on the third and fourth abstracts follow the same form as the certificate on the second.

Section 18 of Chapter 16, 32 Vic. (2), states that where there are two or more lots for which abstracts are required, and the entries on such lots are partly identical, the Registrar shall make a full abstract for one of the lots and enter in the same all the lots to which each instrument refers, and in the abstract of the other lots he shall only include entries affecting these lots separately

The statute does not give any form of certificate under this special clause.

The Registrar seems to have made a bona fide effort to frame his certificate under Section 18, having no form to guide him. I think a more complete form than that adopted by him would be the following: "I certify that the following are correct extracts from the only instruments recorded in this office which mention or refer to the south part of Lot No. 14 north of the X Road in the Township of E since Registry No. 5522; and abstracts of the north part of the said Lot No. 14 and of Lots Nos. 15 and 16, all north of the said X Road, being also required, and the entries on such last mentioned lots being partly identical with those on the first mentioned lot, I do hereby, in pursuance of Sec 18 of Chap. 16, 62 Vic. (2), certify that this is a full abstract of the first of the lots, and that I have entered in the same all the lots to which each instrument refers"

This would be the form of certificate for the first abstract, and the others might be in the following form: "I certify that the following are correct extracts from the only instruments recorded in this office which mention or refer to the north part of Lot No. 14 north of the X Road in the Township of E since Registry No. 5522 that is to say, I have only included herein extracts from entries affecting the above lot separately, and all the other entries affecting the said lot since No. 5522 appear on the abstract hereunto annexed (or on the abstract of bearing even date and furnished herewith)"

(4). I allow for the second set of abstracts as follows:

First abstract....	Search and four references	.25	
	Three additional references	.15	
	Abstract, 1st fol	.25	
	Abstract, five additional fols	75	
			$1 40
Second abstract..	Search, &c	.25	
	Abstract, 1 fol	.25	
			.50
Third abstract ...	Search, &c	.25	
	Abstract, 2 fols	.40	
			.65
Fourth abstract..	Search, &c	25	
	Abstract, 2 fols	40	
			.65
			$3.20

DECLARATION OF DISSOLUTION OF A PARTNERSHIP AND OF INTENTION BY ONE PARTNER TO CARRY ON BUSINESS UNDER OLD NAME—IS THIS A DOUBLE DECLARATION?—SHOULD IT BE FILED?

A Solicitor tendered to a Registrar a declaration to be filed under the Act respecting the registration of co-partnerships and business firms, which the Registrar declined to file, and I have been requested to give my opinion as to whether the Registrar was right in so declining.

The declaration referred to is one made by B, who in it describes himself as formerly a member of the firm carrying on business under the style of X Y, and it purports to certify:

(1) That the said partnership was on 31st Dec, 1900, dissolved.

(2). That he intends to carry on and is carrying on the trade and business carried on by the said firm, under the same name and style of X Y.

(3). That no other person is associated with him in partnership in the said business.

The Registrar treats the document as a double declaration—first, a declaration of dissolution of partnership under Section 6 of the Act, and second, as a declaration under Sections 9 and 10 by a person who uses as his business style a name other than his own name; and the Registrar thinks the Declaration should not be in one, but in two instruments.

Section 4 of the Act provides that a Declaration similar to that required in connection with the formation of a partnership shall be filed when and so often as any change takes place in the membership of the partnership or in the name or style under which they intend to carry on business, etc. The form of the declaration now in question undoubtedly combines a declaration of dissolution of the firm and also a declaration of the intention of one of the partners to continue the same business under the same name.

It is somewhat difficult to say whether this document should be considered as a double declaration, according to the opinion of the Registrar, or not. I think a good deal is to be said in favor of the Registrar's view; but, having regard to the provisions of Section 4, and looking at the substance of the declaration, which probably is meant to evidence a not uncommon transaction, viz, the retirement of one partner in a firm and the purchase of his interest by the remaining partner, who is to carry on the business under the old firm name, I think on the whole my best course is to recommend the Registrar to file this declaration as desired by the Solicitor, and leave the responsibility (if any) as to its sufficiency or operation and effect to be borne by the party concerned. I do not consider that the Registrar will incur any special responsibility in filing and entering this declaration. As the declaration only consists in fact of one document, I think under Section 12 the Registrar will be entitled to but one fee of fifty cents for filing it.

OPINIONS BY DONALD GUTHRIE, K. C., INSPECTOR OF REGISTRY OFFICES.

A BONUS BY-LAW HAVING ATTACHED TO IT A COPY OF AN AGREEMENT RELATING TO LANDS SHOULD BE FILED UNDER MUNICIPAL ACT—THE AGREEMENT NOT BEING VERIFIED FOR REGISTRATION NOT TO BE TREATED AS AN INSTRUMENT AFFECTING LANDS.

A. B., Esq,
Deputy Registrar,

DEAR SIR,—I am in Receipt of your favour of the 16th June, touching the X debenture by-law. The question upon which you desire my opinion is as follows:—

The Clerk of the town of X has sent you a certified copy of a by-law, No. 151, being a by-law to raise the sum of $15,000 for the purpose of assisting, by way of a loan, one A and others to establish a factory, and to authorize the issue of debentures therefor. In the recitals to this by-law is one stating that an Agreement had been en-

tered into by A and others with the town of X, "a true copy of which is annexed to this by law," stating that the loan is to be secured by a first mortgage on the lands and premises described in the agreement. A printed copy of the agreement is attached to the by-law, and according to this printed copy the agreement appears to be signed by a number of people, but the copy of the agreement is in no way authenticated for registration as a separate instrument, nor as a mere copy is it capable of registration at all.

I am of opinion as follows:

(1). This by-law can only be received by you under Section 396 of the Municipal Act, as a by-law passed for contracting a debt. Under that Section it is transmitted to you to be filed, and certain entries are to be made by you in the By-laws Book. You should not register the by-law as an instrument affecting lands, under the Registry Act.

(2). I do no think you are bound to take the slightest notice of the agreement as a separate instrument. It is either a part of this by law, which is one for issuing debentures, or it is an instrument which you cannot receive at all. I think you may receive it simply as a part of the by law under section 396

(3). If you are ever called upon to give a certificate regarding the by-law you will not in it make any reference to the agreement unless you choose to take the trouble to state that the agreement is not registered as an agreement, nor is the by-law registered as an instrument affecting lands under the Registry Act.

A Lien Registered in Name of Firm Should be Discharged by Firm or by Some Person Authorized by Firm.

A. B.,

Registrar.

Re C. & D.

Dear Sir,—The case you submit for my opinion is as follows:

A lien against lands has been registered in your office in favor of Messrs. C. & D. An instrument purporting to be a discharge of this lien has been tendered for registration. This instrument is signed "E D." not "C. & D." nor "E D. for C. & D"

The affidavit of execution states that the witness saw "C. & D" execute the instrument. The question is, whether the execution by E. D. is sufficient.

In my opinion it is not sufficient. There is no proof furnished, as I understand it, that Mr. E. D. is a member of the firm of C & D., and even if that were proved, a member of a firm in executing such a document should do so either in the name of the firm or for the firm.

On the whole, therefor, I am of opinion that the instrument should have been signed either in the firm name or by some partner or some authorized person for the firm, and duly proven accordingly.

Where an Executor of a Will Executes a Release, Under Seal, of Mortgages it is Not Necessary that the Will Should be Registered.

A. B.,

Registrar.

Re C. D.

Dear Sir,—Mr. H., Barrister, has forwarded to me your letter to him of 27 June in this matter. He has also sent me the instrument therein referred to This instrument purports to be a deed poll H. to K. as sole executor of the will of H., and as such H. releases and discharges certain lands therein described from certain mortgages.

This instrument is not a certificate of discharge of mortgage under the Statute, and therefore the Sections of the Act to which you refer in your letter, viz., R.S.O. 1897, Chap. 136 (Registry Act), Section 78, Sub-section (1), also of the Act of 1898, Chap. 16,

Section 7, have no application whatever to this document. These sections, as you will see in various opinions I have given and which have been published, in my opinion apply only to what are known as statutory certificates of discharge of mortgage.

The instrument in question is an instrument under seal affecting lands, and should be registered accordingly; and it is not necessary that the will should be registered in your office as a condition precedent to the registration of the release under seal from his executor.

FEE FOR REGISTRATION OF DEED OF LAND TO RAILWAY COMPANY GOVERNED BY SPECIAL ACT.

A. B,
Registrar.

DEAR SIR,—The matter you submit for my opinion is as follows:

A conveyance by C. to a railway company, covering some eighty-eight lots in a city, was registered by the solicitors for the railway company. You made a charge of 75 cents for the deed, and $4 20 for extra lots, in all $4.95. The solicitors contend that under the special Act relating to this railway, the sum of 75 cents is the maximum fee, no matter how many lots are included in the conveyance. Your view is that the Registry Act, Section 118, Sub-section 1, which provides for an extra charge for each lot in excess of four, entitles you to the extra fees notwithstanding the provisions of the special Act. The solicitors, you say, refuse to pay more than 75 cents.

As my view is adverse to your contention, I have thought it unnecessary to call upon the solicitors to state their view. I do not think the general Registry Act in this case over-rides the special Act, and I think, therefore, the fee fixed by the latter governs, no matter whether the deed covers one or several lots.

I do not think it would be sound to hold, as you contend, that although the first part of Section 118, Sub-section 1, of the Registry Act, which fixes the fee for registration of an ordinary deed at $1.40 does not apply here (and that it does not apply seems to be conceded by you), yet that the latter part of the same sub-section does apply. The language of the part last referred to is, "for the *said* instrument," that is, an instrument for which the fees are fixed by the preceding part of the sub-section at (ordinary) $1.40

While I think a fee of 75 cents is entirely inadequate for the work which you have had to perform in connection with the registration of this particular deed, I cannot see that you are entitled, in view of the special Act, to anything more.

A CERTIFICATE OF PARTIAL DISCHARGE OF MORTGAGE MONEY INSUFFICIENT FOR REGISTRATION AS A CERTIFICATE MAY BE REGISTERED OTHERWISE, AND HOW.

To.....
Barristers.

I am in receipt of your favor of the 10th inst., together with release of mortgage, which I now return.

Under section 82 of the Registry Act, provision is made for the release or discharge of part of the money specified in a mortgage. That section only provides for discharge

by the mortgagee or assignee of the mortgagee. The parties are neither, nor are they persons authorized by section 76 to execute a statutory form of discharge.

I do not think, therefore, that this confirmatory discharge can in its present shape be registered. If this instrument had described the land it could be registered as an instrument affecting land, and a new instrument containing a description of the land may possibly be obtainable.

Or, perhaps, under the Act of 1899 to amend the Registry Act, treating this as an instrument affecting land without local description, a statutory declaration may be made by one of the parties to the instrument, to the effect that it affects lands by local description, and giving the necessary local description, and the instrument may then be registered, not as a statutory certificate of discharge but as a special confirmation of a lost release. The Registrar should, in that case, in the proper column for remarks note "Special, see Instrument," and in giving abstracts, etc., he would have to be careful to show by whom it purported to be executed and call attention to the recitals therein.

REGISTRATION OF WILL IN ABBREVIATED FORM—CERTIFICATE ON PROBATE—FEES.

A. B.,
Barrister.

Re X.

DEAR SIR:—I understand the question submitted by you arises as follows:

Under sub-section 2 of section 78 of the Registry Act, probate of the will of X in an abbreviated form has been registered, and the Registrar declines, without payment of a fee of 25 cents for the certificate, to endorse on the probate a certificate of the registration of the abbreviated copy.

Under sub-section 1 of section 118 the ordinary registration fee includes the certificate on the duplicate of the instrument registered.

Here, what was registered was not a duplicate or copy of the probate, and the form of certificate of registration, under Schedule "J" of the Registry Act, would in such a case have to be modified so as to show that the probate was registered in an abbreviated form and for the purposes only of Section 78.

In my opinion, if you require a certificate on the probate of the registration in short form, you will have to pay an extra fee of 25 cents for the certificate.

AN EXECUTOR OF AN ADMINISTRATOR OF A DECEASED MORTGAGEE CANNOT GRANT A VALID STATUTORY CERTIFICATE OF DISCHARGE OF MORTGAGE.

To A. B.,
Registrar.

DEAR SIR,—In answer to your letter of the 14th inst., as I understand the position of the matter, it is this: A mortgagee died intestate; Letters of Administration to his estate were taken out by his widow; his widow afterwards died, leaving a will appointing executors. These executors have executed a discharge of a mortgage made to the intestate mortgagee, and it is contended on their behalf that they are competent to discharge the mortgage by reason of their being the executors of the deceased administratrix.

I do not think that is so. An executor of an administrator has not, in my opinion, power, simply because he is executor, to execute a valid discharge of a mortgage made to the intestate mortgagee. I think it will be necessary to have another legal personal representative appointed to the estate of the deceased mortgagee before a valid discharge can be executed.

REGISTRATION OF NOTARIAL COPIES OF INSTRUMENTS EXECUTED IN QUEBEC—REGISTRATION OF INSTRUMENT AFFECTING LANDS WITHOUT LOCAL DESCRIPTION

A. B.,
Deputy Registrar.

DEAR SIR,—In answer to your recent questions, I have to say as follows :—

(1) I am of opinion that where two notarial copies of instruments executed in the Province of Quebec are submitted for registration, you may register one and endorse the registration certificate on both copies—i. e., the one retained and the one returned, thereby treating them in effect as duplicate originals .

(2). I am of opinion that under the amendment of 1899, Section 1, where an instrument is registered having attached to it the statutory declaration therein provided for, the instrument should not be registered in the General Register at all, but it should be registered at full, including the Declaration, in the proper Separate Register.

ALTERATION OF A DUPLICATE OF A REGISTERED INSTRUMENT—DUTY OF REGISTRAR.

A. B.,
Registrar.

DEAR SIR,—I am in receipt of your letter of the 6th inst., I understand that the alterations made in the duplicate life lease which was certified by you, and which alterations were made after you placed your certificate on the duplicate, are all of a material character. It appears that they have been so made as to give the altered document the appearance of having been duly registered.

I think it is your duty, as the circumstances have come to your knowledge, to demand that your certificate of registration be at once cancelled. When that is done, you have nothing more to do with the matter. Your solicitor had better go with you and insist on the cancellation of your certificate ; and if it is not done your solicitor will probably advise you to make a complaint before the Law Society, or to take some other measures of the like nature.

It becomes a serious question whether Registrars should not in some way stamp every page of these typewritten instruments. While I do not consider that you are responsible for the altered document, I think since the matter has come to your knowledge you should insist on the cancellation of your certificate as above directed.

DEATH OF REGISTRAR—HOW PROPORTION OF FEES SHOULD BE COMPUTED WHERE DEPUTY REGISTRAR BECOMES ACTING REGISTRAR.

To A. B.,
Acting Registrar.

DEAR SIR,—In answer to your letter, I have to say that I think your view is the correct one, viz., that for the portion of the year since the Registrar's death in which you act as Registrar and receive the fees the proportion is to be computed for the part of the year in which you so act at the same rate as you would have received and had to pay had you filled the office for the whole year, and had you received fees and emoluments and made disbursements in connection with the business of your office for the whole of the year at the same rate as you receive and make for the part of the year in which you fill the office. Section 130 of the Registry Act was passed for the express purpose of preventing such an interpretation as the barrister you refer to thinks the Section bears.

WHERE A PLAN IS ATTACHED TO A DEED AND FORMS PART THEREOF IT SHOULD BE COPIED INTO THE REGISTER.

To.....
A Registrar.

DEAR SIR,—I am in receipt of your letter of the 2nd inst., I understand the point upon which you ask my opinion arises as follows :—

A deed has been registered, attached to which is a plan for the purpose of making more clear the description of the property. The plan, I assume, forms part of the Deed.

This plan or sketch shows that the land conveyed by the Deed is a mill property of irregular shape, having six different sides.

You ask whether this plan is to be copied into the Register, and if so, how you should make your fees for so copying.

In answer to your question, I have to say that in my opinion, if the plan forms part of the deed it should be copied into the Register. The charge therefor will be determined by counting the number of words on this plan and charging accordingly.

You will be expected to either have a clerk to copy it in a fairly satisfactory way, or, if you have no one in your office who is competent to do that, you should employ for the occasion some person competent to do this work.

I return the plan.

REGISTRATION OF ASSIGNMENT OF SEVERAL REGISTERED LEASES WHERE REGISTRATION NUMBERS OF LEASES ARE GIVEN BUT LANDS NOT DESCRIBED IN ASSIGNMENT.

To.....
A Registrar.

DEAR SIR,—I am in receipt of your letter of the 12th inst. containing an instrument by C purporting to assign certain Leases. I incline to think that you are right in supposing that the particular lands affected should be described in the instrument. Giving the

registration numbers merely would involve a search on your part. Perhaps, where the number is given, such a search, being paid for, might enable you to register the instrument against the particular lands—I assuming that the lands are properly described in the instruments for which the various numbers are given ; but I notice quite a number of lots referred to where numbers are not given and there is no description of lands or instruments at all, unless you were to look up the alphabetical index, etc.

Now, I do not think the Act contemplates all this work by you, and the better course for you will be to return the instrument to the parties, expressing my view as above. I may say, however, that my opinion as above expressed is not binding on the parties who wish to register the instrument.

A Release of a Chattel Mortgage to which a Land Mortgage is Collateral May be Registered as an Instrument Affecting the Lands—How to be Registered.

To.....

A Registrar.

Re C.

Dear Sir,—The facts as stated by your letter are as follows :

On 14 January, 1888, Mrs. C. and husband made a mortgage in favor of D as trustee for creditors of the mortgagors, as set forth in a Schedule annexed to the Mortgage against Lot "D" and other lands. In the Mortgage it is also set forth that the same is given as collateral security to a mortgage made by Mrs. C. alone on her personal property, she being also the owner of the land, the same creditors being secured by both mortgages on the real and personal property. In June, 1894, D, the trustee, having died, the creditors secured by these two mortgages give what purports to be a release of the mortgage on the personal property ; this release you enclosed for my perusal. You have been asked to register the same as a discharge of the mortgage on the real estate, which as stated before was collateral to the chattel mortgage, the description of the land affected thereby being the Declaration of C annexed thereto. You ask me to advise you as to whether you should accept and register this release as a discharge of the mortgage on the realty. As stated, the trustee is dead, also some creditors, and others have left the country and cannot be found : hence the reason a proper discharge cannot be procured.

I am of opinion as follows :

(1) The instrument of release of chattel mortgage is a document under seal, and it is, no doubt, under the circumstances, effectual to release the interests of the various parties who execute the same in the chattel mortgage, and, indirectly, therefore, in the land mortgage.

(2) For various reasons it cannot be accepted by you as a statutory certificate of discharge of the land mortgage.

(3) I incline, however, to think you may accept it and register it as an instrument under seal affecting lands without local description ; but the local description is supplied by the statutory declaration annexed to the release made by C under the Act of 1899.

(4) In registering it, you will take care, in your abstract and other indexes, to show by whom it purports to be executed, and put in the column for remarks the words "See Instrument," or the like, so that parties searching the title may have their attention called to the peculiar character of the instrument, and they can then form their own opinion as to its operation and effect.

REGISTRATION OF A DEED APPOINTING NEW TRUSTEES AGAINST ANY ONE LOT IN A REGISTRY DIVISION, SUFFICIENT FOR PURPOSE OF DISCHARGE BY THESE TRUSTEES OF ALL MORTGAGES IN SAME DIVISION.

Messrs. A. & B.,
Solicitors.

DEAR SIRS,—In answer to your letter, I understand the facts to be as follows :

A Deed appointing new trustees was registered in the registry office of X, in Book 18 of the Township of Y. I presume it was registered upon a particular description contained therein of a lot in Y, or because it had attached to it a statutory declaration under the Act of 1899, showing that it affected particular lands there. A mortgage belonging to the trust estate was paid off, and you prepared a discharge of it, setting out the fact that it was given by the trustees in whom the mortgage was vested pursuant to the trust deed, which was registered in Book 18 for the Township of Y. This mortgage covered other lands in another township within the same registry division. The Registrar has refused to register the Discharge in the meantime, until he shall have been furnished with my opinion that it is sufficient.

I am of opinion that the registration of the Deed appointing new trustees in the Registry Office of the same division is sufficient for the purposes of discharging mortgages covering lands in that division ; in other words, I do not think the Deed requires to be registered more than once or in more than one book in the office, unless of course the instrument itself describes lands by particular description in different municipalities in that Registry Division. One object to the amendment of 1895, touching pre-requisites to registration of Discharge of mortgage by certificate (now embodied in the revised Registry Act, 136, R.S.O., Section 78), was to enable a person searching a title to ascertain by search in the same office what the documents were under which the person purporting to sign the certificate of discharge of mortgage (not being the mortgagee) claimed the right or title so to do.

I am sending a copy of this opinion to the Registrar, and I have no doubt you will have no further trouble in securing the registration of the Discharge of Mortgage to which your letter refers.

REGISTRATION OF ORIGINAL WILL WITH A JUDGE'S CERTIFICATE GIVEN UNDER SECTION 50 OF REGISTRY ACT—ORIGINAL AFFIDAVITS USED BEFORE JUDGE SHOULD BE REGISTERED WITH THE CERTIFICATE.

To.....
A Registrar.

DEAR SIR,—I return copy will of C, also copy will of D.

Regarding the first, I think the form of certificate should more fully state the evidence given which satisfied the Judge (see Schedule I to the Registry Act). The evidence given was, no doubt, the evidence of E and F by affidavit, copies of which are attached, but the certificate does not say so, nor are these copies verified.

Regarding the D will, I think the certificate of the Judge should show the contents of the affidavits ; indeed, by analogy to the provisions of Section 70, the original affidavit should be registered with you with the Judge's certificate.

I think it very clear, also, in the D case, that you cannot register a copy of the Judge's certificate (see form Schedule I) The original Judge's certificate must be left with you just as, under Section 70, an original affidavit by the witness must be left with you.

On further consideration, I think the solicitors are, to a certain extent, right regarding the effect of Section 50. At all events, as it may apply to the case of wills, I would not have you take the responsibility of rejecting a will which is properly proved under Section 50. But it is very important that the Judge's certificate should be filed in your office and that that certificate should fully show the evidence upon which the Judge grants it. I think if the Judge's attention is called to the matter he will require the affidavits upon which he acts to be attached to his original certificate and to be registered with the same in your office. You might have a conversation with the Judge on the subject, pointing out to him that if an original will was registered in the ordinary way you would require, under Section 70, to have the original affidavit sworn to by one of the witnesses to the will proving the due execution thereof by the testator. In lieu of that you ought to have the Judge's original certificate, and I respectfully submit that you ought also to have the original affidavits upon which the Judge grants his certificate, because Schedule N says, "the certificate shall not only name the person producing the proof, but state the evidence given."

I take it that means, "state *all* the evidence given," and where the evidence is by affidavit the shortest way to state it is to refer to the original affidavits as annexed to the certificate.

This is decidedly the more convenient way, because otherwise there is no provision under the Act for preserving the evidence, that is, for filing the affidavits anywhere.

FEES AND EMOLUMENTS received by the Registrars of Deeds for the Province of Ontario for the year 1900, and 7, with which are contrasted the amount of Fees, Surplus to

Schedule A.

No. of registration division.	Name of registration division.	Name of Registrar.	1 No. of municipalities.	1a Total No. of instruments registered in 1899.	Instruments registered in 1900. 2 Total number.	3 Fees therefor.	4 Uncopied.	5 Copied but uncompared.
1	Algoma	Robert A. Lyon	18	939	1,861	$2,355 48	....	....
2	Brant	W. B. Wood	7	2,000	1,909	2,202 70	25	8
3	Bruce	Neil Sinclair (actiog).. / Geo. D. McKay (act'g)	27	3,544	3,248 / 426	3,795 40 / 508 20	133 ...	67 .....
4	Carleton	Patrick J. Coffey	13	2,484	2,257	2,804 35	170	.....
5	Dufferin	William McKim	9	1,405	1,484	1,680 90	.....	.....
6	Dundas	Thomas McDonald	8	1,101	1,071	1,267 55	....	....
7	Durham, East	Henry Elliott	5	605	674	778 60	56	42
8	Durham, West	J. W. McLaughlin	5	579	821	706 60	12	.....
9	Elgin	James H. Coyne	13	3,607	3,504	3,995 45	....	.....
10	Essex	J. Wallace Askin	23	3,933	3,644	4,280 00	7	2
11	Frontenac	J. Duncan Th mpson	19	1,367	1,389	2,134 95	.....	.....
12	Glengarry	John Simpson	7	880	943	1,174 16	.....	.....
13	Grenville	Patrick McCrea	9	1,177	1,155	1,481 70	.....	.....
14	Grey, North	Robert McKnight	12	2,402	2,510	2,907 90	....	.....
15	Grey, South	Thos. Lauder	10	1,672	1,852	2,054 65	30	....
16	Haldimand	J. Baxter	14	1,180	1,152	1,437 28	.....	.....
17	Haliburton	E. C. Young	10	242	253	316 15	.....	4
18	Halton	David Robertson	9	1,751	1,487	1,602 25	....	.....
19	Hastings	Henry W. Day	31	2,820	2,596	3,325 95	204	.....
20	Huron	J. D. O'Connell	25	4,042	3,803	4,482 10	259	....
21	Kingston, city	J. P. Gildersleeve	1	666	565	658 70	4	.....
22	Kent	P. D. McKellar	20	4,554	3,890	4,435 95	153	5
23	Lambton	A. McLean	20	4,413	4,460	5,090 00	27	.....
24	Lanark, North	M. S. Anderson (acting).	10	615	638	788 65	35	.....
25	Lanark, South	James Armour	10	1,988	2,238	2,054 50	...	.....
26	Leeds	Welmot H. Cole	15	1,825	1,859	2,215 55	.....	.....
27	Lennox & Addington	S. Gibson	17	1,360	1,280	1,436 90	.....	.....
28	Lincoln	J. G Currie	14	1,942	1,789	2,102 25	145	.....
29	London, city	W C. L. Gill	1	1,929	1,861	1,974 40	.....	.....
30	Manitoulin	D. R. Springer	40	874	503	570 45	....	.....
31	Middlesex, N. & E	John Waters	13	2,296	2,185	2,358 54	.....	.....
32	Middlesex, West	Stephen Blackburn	8	1,300	1,161	1,347 30	....	.....
33	Muskoka	John Ewart Lount	27	1,158	1,229	1,528 25	79	.....
34	Nipissing	A. G. Browning (acting)	22	405	467	914 36	12	.....
35	Norfolk	A. J. Donley	13	2,396	2,073	2,428 85	.....	.....
36	Northumberland, E	A E. Mallory	9	1,908	1,209	1,521 45	6	....
37	Northumberland, W	F. W. Field	5	551	561	718 30	77	.....
38	Ontario	Geo. W. Dryden	17	1,896	1,743	2,577 05	102	.....
39	Ottawa, city	Alex. Burritt	1	3,030	3,332	3,617 55	68	.....
40	Oxford	Geo. R. Pattullo	16	3,008	3,033	3,551 55	176	.....
41	Parry Sound	Thos. Kennedy	47	633	684	874 00	....	....
42	Peel	H. Chisholm	8	816	957	1,221 65	.....	.....
43	Perth, North	D. D. Hay	9	1,861	2,057	2,390 70	22	...
44	Perth, South	P. Whelihan	7	1,075	951	1,100 35	86	22
45	Peterborough	B. Morrow	20	1,911	1,813	2,025 30	83	213
46	Prescott	John Higginson	10	1,274	1,596	1,917 40	....	.....
47	Prince Edward	Walter MacKenzie	9	1,009	1,038	1,175 69	300	.....
48	Rainy River	F. J. Apjohn	7	319	291	343 55	.....	.....
49	Renfrew	M. M. McKay / R. A. Campbell	31	2,574	2,792 / 126	2,878 52 / 138 20	....	....
50	Russell	Alex. Robillard	6	967	947	1,233 25	135	30
51	Simcoe	Samuel Lount	26	4,266	4,519	5,513 75	...	.....
52	Stormont	John C. Alguire	5	1,303	1,223	.....	.....	.....
53	Thunder Bay	John M. Munro	28	966	948	1,285 10	....	.....
54	Toronto, East	Peter Ryan	1	4,092	4,535	5,300 15	70	15
55	Toronto, West	Charles Lindsey	1	4,246	4,563	5,540 45	27	15
56	Victoria	Charles D. Barr	19	1,682	1,704	2,020 60	10	.....
57	Waterloo	A. W. Merner (acting)	13	2,753	2,607	3,050 65	.....	....
58	Welland	James E. Morin	16	2,051	1,980	2,621 55	45	45
59	Wellington, North	John Anderson	11	1,455	1,785	2,088 70	70	120
60	Wellington, South	N Higginbotham	12	1,477	1,506	1 744 60	37	.....
61	Wentworth	R. K. Hope	10	4,032	3,785	4,457 65	.....	.....
62	York, E. & W	James Massie	15	2,186	2,287	3,005 70	42	.....
63	York, North	James J. Pearson	10	1,199	1,132	1,451 30	....	.....
				119,991	119,941			

made in accordance with the provisions of 56 V. cap. 21, secs. 117, 120 and 121, and 57 V. c. 9, secs. 6 Municipalities and Registrars' incomes for the years 1899 and 1898.

Schedule A.

Patents.		Deeds.		Mortgages.		Dis. of mortgages		Wills.		Leases.		
6 No. registered.	7 Fees for same.	8 No. registered.	9 Fees for same.	10 No registered.	11 Fees for same.	12 No. registered.	13 Fees for same	14 No. registered.	15 Fees for same.	16 No. registered.	17 Fees for same.	No. of reg. division.
4	$4 45	962	$1,439 03	314	$370 50	224	$127 55	16	$29 45	2	$2 95	1
.....	.....	654	1,030 00	485	509 65	484	267 15	89	174 80	5	11 25	2
2	2 95	1,260	1,906 30	753	829 50	837	438 15	87	193 95	4	8 20	3
		171	259 50	109	120 25	96	52 00	9	17 20			
.....	.....	842	1,284 30	544	647 25	555	387 35	81	164 05	4	5 90	4
2	2 80	485	729 00	367	409 65	454	255 10	39	96 90	6	12 20	5
.....	.....	434	649 85	247	309 20	300	154 85	36	77 70	4	9 10	6
.....	.....	268	397 75	169	173 40	152	90 75	35	57 15	2	4 55	7
.....	.....	176	271 65	97	201 15	121	77 30	36	74 20	6	15 30	8
.....	.....	1,230	1,889 95	801	857 50	988	549 75	91	209 90	28	45 65	9
5	7 75	1,473	2,213 30	864	1,009 65	859	471 35	70	154 80	17	30 50	10
13	19 10	527	774 40	323	375 75	318	222 80	59	95 45	34	64 60	11
.....	.....	349	523 95	237	281 80	277	120 40	54	97 95	13	23 45	12
1	1 55	435	678 25	286	426 80	268	153 85	50	91 95	6	9 90	13
1	1 70	927	1,443 50	553	611 75	637	366 05	89	196 95	4	7 45	14
6	9 00	586	882 10	464	516 85	530	276 00	64	117 20	5	9 40	15
.....	.....	322	531 60	296	319 61	312	258 25	58	103 32	3	3 25	16
.....	.....	143	202 25	35	46 85	22	11 00	9	9 00	1	1 40	17
.....	.....	293	459 10	275	377 70	245	140 80	44	93 10	1	1 55	18
22	30 10	1,022	1,657 50	554	619 50	565	296 50	102	205 85	34	77 80	19
.....	.....	1,206	2,004 95	1,035	1,094 90	1,074	571 55	65	286 80	4	6 80	20
1	1 55	167	260 65	138	157 80	141	101 45	23	38 45	2	4 75	21
.....	.....	1,352	1,969 35	1,042	1,090 90	993	507 35	122	209 80	25	43 45	22
1	1 55	1,472	2,148 20	1,081	1,154 40	1,055	562 35	126	220 05	227	359 40	23
....	.....	252	390 55	129	170 10	151	76 10	38	68 35	4	7 55	24
.....	.....	482	747 15	434	517 80	315	198 10	67	116 30	6	11 65	25
8	11 95	644	986 25	426	526 55	465	259 05	141	228 10	12	24 20	26
2	2 80	446	684 25	305	366 20	325	173 60	62	96 05	4	7 70	27
. ...	..... .	616	950 90	410	438 60	429	265 90	63	112 30	21	35 45	28
....	.....	576	872 40	501	504 15	482	257 65	67	113 80	3	6 00	29
63	....	250	361 35	79	102 30	53	26 00	2	3 88	2	4 85	30
1	1 40	711	1,056 10	550	553 55	570	291 90	95	165 60	11	18 70	31
.....	.....	414	628 95	280	311 25	302	160 05	43	79 80	10	12 75	32
25	35 90	636	938 90	196	217 60	234	121 90	18	36 80	3	5 55	33
1	1 40	231	401 20	82	93 20	76	43 65	8	12 55	... .	.....	34
2	3 10	760	1,185 75	514	562 80	513	256 50	66	166 05	9	13 65	35
.....	.....	423	689 75	254	312 10	297	163 75	52	104 15	6	10 60	36
1	1 40	219	345 45	117	128 35	104	65 10	45	89 85	1	2 00	37
.. ..	....	641	995 55	404	467 80	397	237 55	72	173 25	10	23 20	38
13	12 90	1,036	1,693 65	895	899 70	934	510 35	76	145 80	8	18 55	39
1	1 40	893	1,368 90	777	852 75	791	494 90	123	266 90	29	46 20	40
9	13 05	295	489 10	119	131 95	121	59 10	7	10 30	.....	..... .	41
.....	.....	332	399 20	247	273 60	189	171 10	69	150 85	1	1 70	42
.....	.....	677	1,039 45	537	598 90	548	303 10	84	183 45	2	4 55	43
.....	... ..	303	457 25	208	232 45	245	127 25	46	104 45	4	7 55	44
3	4 20	634	960 40	362	375 25	498	252 25	72	193 00	6	14 35	45
.....	.....	627	977 80	423	533 85	401	203 20	29	53 70	....	... ..	46
.....	.....	379	566 95	256	273 70	245	126 84	58	104 65	1	2 15	47
.....	.....	102	149 75	67	79 15	45	22 50	.. ..	....	.....	....	48
... ..	.....	776	1,192 70	489	546 00	462	243 42	47	86 50	7	21 40	49
		49	73 10	28	29 20	34	17 80	1	1 85			
.....	... ...	357	499 80	269	457 40	214	121 75	28	47 95	9	14 55	50
2	2 80	1,756	2,647 85	1,107	1,231 45	1,019	661 20	119	273 55	10	22 55	51
2	2 80	472	727 05	317	370 30	305	163 65	57	122 00	5	11 15	52
.....	.....	521	813 60	179	277 55	118	61 75	12	32 25	.....	.....	53
2	7 40	1,305	2,200 60	1,071	1,119 90	940	548 95	4	8 45	111	294 50	54
1	2 00	1,507	2,433 95	1,047	1,071 55	855	496 10	189	381 95	7	18 50	55
1	1 55	607	938 65	372	387 00	424	251 80	66	128 60	10	16 55	56
4	6 05	888	1,408 85	632	682 55	644	365 85	132	253 30	56	79 90	57
4	6 35	754	1,193 10	442	564 75	419	261 25	84	181 35	19	36 70	58
3	3 80	420	615 40	522	631 55	441	262 60	70	119 40	191	320 55	59
... ..	.....	460	724 25	361	416 55	393	210 15	91	166 70	2	2 80	60
2	4 40	1,169	1,844 25	868	895 90	927	529 80	164	305 00	10	24 60	61
.....	.....	838	1,393 45	442	514 55	498	319 80	95	205 10	.....	.....	62
.....	.....	416	654 30	265	313 00	266	174 30	53	120 10	2	3 10	63
				28,042	31,575 16							

FEES AND EMOLUMENTS received by the Registrars of

Schedule A.—*Continued.*

No. of registration division.	Name of Registrar.	Abstracts.		Searches.		Mechanics' liens.		All other instruments	
		18 Number.	19 Fees for same.	20 Number.	21 Fees for same.	22 No. registered.	23 Fees for same.	24 No. registered.	25 Fees for same.
1	Robert A. Lyon	239	$339 65	775	$470 29	77	$22 00	262	$359 55
2	W. B. Wood	66	81 45	1,252	325 70	3	75	189	209 10
3	Neil Sinclair (acting). G. D. McKay (acting)	1,062 143	676 80 91 05	719 94	178 85 23 50	2 2	50 50	303 39	415 85 58 75
4	Patrick J. Coffey	359	382 00	929	393 70	9	2 25	222	313 25
5	William McKim	313	375 10	474	273 85	4	1 00	127	174 25
6	Thomas McDonald	47	82 43	387	130 60	3	75	47	66 10
7	Henry Elliott	129	135 10	216	107 95	3	1 15	88	94 90
8	J. W. McLaughlin	82	97 35	236	81 02	..	.....	67	79 50
9	James H. Coyne	123	202 20	2,074	599 95	14	3 50	352	439 20
10	J. Wallace Askin	172	246 50	1,584	844 80	17	5 85	339	386 80
11	J. Duncan Thompson	90	88 25	1,050	363 25	....	.....	115	131 35
12	John Simpson	96	137 97	422	107 55	.....	.....	93	126 91
13	Patrick McCrea	104	124 20	487	142 80	....	.....	91	119 40
14	Robert McKnight	481	466 25	1,167	328 10	2	60	252	305 90
15	Thos. Lauder	606	427 85	425	132 40	2	50	195	243 60
16	J. Baxter	242	152 55	312	272 05	1	25	43	24 25
17	E. C. Young	77	38 75	66	21 85	....	.....	43	55 55
18	David Robertson	175	90 65	345	315 70	6	1 50	104	162 15
19	Henry W. Day	487	647 10	1,460	367 85	6	1 50	291	407 20
20	J. D. O'Connell	1,210	967 25	1,105	376 45	9	2 25	410	514 85
21	J. P. Gildersleeve	31	92 40	319	147 00	8	2 05	85	90 00
22	P. D. McKellar	288	364 90	1,179	463 50	16	4 00	340	611 35
23	A. McLean	380	219 65	1,855	724 55	20	5 00	478	639 05
24	M. S. Anderson (acting).	51	72 75	87	46 95	....	.....	70	81 90
25	James Armour	136	75 20	665	217 55	4	1 00	129	169 75
26	Welmot H. Cole	156	222 90	1,121	280 30	6	1 50	157	177 95
27	S. Gibeon	85	154 40	480	300 20	2	50	134	135 80
28	J. G. Currie	471	517 25	706	321 05	7	2 00	243	297 10
29	W. C. L. Gill	65	103 24	1,071	421 70	16	4 00	387	558 40
30	D. R. Springer	59	51 90	344	89 50	....	.....	57	72 10
31	John Waters	166	232 75	1,096	327 44	1	25	246	270 95
32	Stephen Blackburn	219	245 90	387	153 35	.....	.....	114	154 50
33	John Ewart Lount	178	122 60	1,150	291 30	3	75	114	171 15
34	A. G. Browning (acting)	149	150 26	480	108 30	4	1 20	65	102 60
35	A. J. Donley	170	299 20	1,482	388 80	1	25	208	240 75
36	A. E. Mallory	324	365 75	236	101 20	.....	.....	126	162 85
37	F. W. Field	186	238 85	272	85 10	1	25	65	85 90
38	Geo. W. Dryden	281	398 95	592	194 50	6	1 50	213	278 20
39	Alex. Burritt	798	728 25	1,539	392 85	67	18 45	276	318 15
40	Geo. R. Pattulo	500	662 60	1,704	486 75	5	1 25	414	519 25
41	Thos. Kennedy	151	148 85	645	164 95	12	3 00	121	167 50
42	H. Chisholm	106	176 40	312	148 00	8	2 85	111	222 35
43	D. D. Hay	419	318 60	841	243 00	1	25	208	161 00
44	P. Whelihan	173	186 05	330	88 65	2	60	143	170 80
45	B. Morrow	201	325 10	821	347 15	.....	.....	238	279 85
46	John Higginson	108	110 75	261	82 15	5	3 65	111	145 20
47	Walter Mackenzie	85	92 25	391	120 34	.....	.....	99	101 40
48	F. J. Apjohn	18	16 30	5	1 35	15	3 75	62	70 75
49	M. M. McKay R. A. Campbell	283 16	283 45 13 60	421 31	117 65 12 60	1	25	206 18	16 00
50	Alex. Robillard	254	218 65	106	38 45	1	25	69	91 55
51	Samuel Lount	.....	1,326 30		426 55	5	2 30	501	672 05
52	John C. Alguire	86	66 20	764	282 35	5	1 25	60	133 15
53	John M. Munro	274	277 00	506	355 75	21	5 45	97	144 50
54	Peter Ryan	351	816 15	4,001	1,433 10	61	17 30	1,041	1,103 05
55	Charles Lindsey	304	517 25	4,630	1,717 45	42	10 70	925	1,125 70
56	Charles D. Barr	197	282 05	1,136	325 65	11	2 75	213	293 70
57	A. W. Merner (actiog)	228	292 95	863	342 30	9	2 25	242	251 90
58	James E. Morin	272	603 20	831	359 60	12	3 60	246	374 45
59	John Anderson	460	510 50	105	116 65	2	50	136	127 30
60	N. Higinbotham	167	192 25	485	194 20	1	25	198	223 90
61	R. K. Hope	769	1,427 10	1,980	925 40	72	27 10	583	626 30
62	James Massie	132	333 40	1,873	723 30	8	2 00	406	570 80
63	James J. Pearson	161	171 20	502	146 05	.....	.....	130	186 50

Deeds for the Province of Ontario, etc.—*Continued.*

Schedule A.—*Continued.*

26 Received for work done for municipalities.	27 From other sources not enumerated.	28 Fees earned and not received.	29 Gross amount of fees earned for the year 1900.	30 Gross amount for 1899.	30a Gross amount for 1898.	31 Deputy registrars for services.	31a Other charges in connection with office.	No. of registration division.
$61 75	... .	....	*$800 00	*$800 00	*$800 00	$360 00	$572 44	1
			3,227 17	1,740 97	2,059 25			
.....	$27 70	$148 29	2,637 65	2 803 75	2,655 85	624 00	239 60	2
	126 25	1,163 89	4,777 30	5,262 50	5,197 75	800 00	777 60	3
.....	22 45	475 98	645 20				99 00	
.....	74 90	....	3,655 20	3.985 35	4,009 30	500 00	1,050 41	4
325 00	69 90	....	2,381 75	2,440 00	2,397 55	700 00	195 00	5
....	51 90	... .	1,529 43	1,509 58	1,633 24	400 00	15 00	6
5 00	..... .	4 70	1,042 70	966 75	1,094 45	360 00	19 00	7
.....	18 46	63 18	903 43	970 38	967 89	420 00	120 00	8
760 00	82 15	2 20	4,877 85	5,064 70	4,020 60	696 90	463 01	9
.....	35 05	.....	5,406 35	6,078 15	5.621 35	1,009 33	720 68	10
.....	.....	.....	2,134 95	2,148 25	2,005 45	600 00	651 35	11
....	70 95	318 00	1,490 63	1,455 79	1,436 00	313 00	10 15	12
.. ..	14 00	.....	1,762 70	1,835 60	1,606 00	700 00	113 50	13
....	113 10	566 32	3,815 35	3,630 25	3,217 95	600 00	341 53	14
.....	108 40	244 44	2,723 30	3,115 48	3,112 78	600 00	526 76	15
.....	.....	197 57	1,886 13	1,990 28	2,160 92	249 64	62 00	16
5 00	4 00	..... .	395 75	397 50	323 00	150 00	.....	17
.....	....	36 18	1,602 25	1,977 05	1,555 40	416 00	156 00	18
.....	166 30	412 61	4,506 80	4,631 20	4,278 30	1,000 00	521 62	19
.....	.....	612 70	5,826 20	5,689 55	5,341 25	.. ..	1,240 25	20
.....	....	..... .	896 05	996 90	1,143 42	400 00	49 60	21
... .	43 50	374 85	5,307 85	6,183 00	5,647 05	1,000 00	1,676 50	22
240 00	37 80	115 00	6,072 00	5,998 70	5,731 33	1,498 00	944 04	23
....	....	.....	914 25	8 9 05	802 70	20 00	.....	24
.....	.....	....	2,054 50	1,947 50	1,888 96	550 00	....	25
.....	98 40	181 54	2,816 15	2,843 91	2,838 23	1,196 00	44 94	26
.....	16 45	43 00	1,907 95	1,943 40	1,515 60	325 00	100 00	27
147 00	62 90	277 99	3,003 45	3,152 10	2,984 04	395 00	307 43	28
.....	36 80	..... .	2,878 14	2,864 10	2,635 90	402 00	389 14	29
.....	12 50	....	741 90	662 60	500 25	51 00	20 36	30
.....	53 75	.....	2,979 48	3,151 98	2,992 41	416 00	438 26	31
.....	23 25	100 00	1,759 80	1,806 95	1,769 40	520 00	559 00	32
.....	89 80	55 00	2,032 25	1,997 80	1,875 85	500 00	148 80	33
....	.....	.....	914 36	686 55	633 90	474 00	....	34
.. ..	60 90	... .	3,177 75	3,644 65	2,948 75	624 00	416 00	35
.....	78 25	180 85	1,988 40	2,248 15	2,044 82	300 00	88 90	36
.....	18 65	264 28	1,075 30	1,022 44	1,276 04	420 00	13 00	37
... .	70 90	.....	2,841 40	3,481 95	3,083 70	520 00	553 44	38
133 45	483 20	....	5,221 85	4,852 25	4,601 65	1,092 00	273 82	39
....	84 40	.....	4,785 80	4,649 80	4,160 10	800 80	738 63	40
.....	55 30	19 93	1,243 10	1,380 55	1,380 40	300 00	9 82	41
.....	22 70	18 57	1,568 75	1,559 50	1,321 79	600 00	18 00	42
..... .	68 85	379 35	3,021 15	2,851 20	2,529 70	720 00	469 46	43
.....	29 55	....	1,404 60	1,606 15	1,455 15	600 00	192 60	44
..... .	30 70	60 00	2,831 85	3,019 50	3,110 50	840 00	334 90	45
... .	91 14	301 63	2,201 44	1,814 05	2,140 85	500 00	202 00	46
.....	29 30	.....	1,417 58	1,361 05	1,374 25	600 00	.....	47
.....	..... :	....	343 55	468 25	535 15	.....	35 50	48
.....	6 50	50 84	2,878 52	3,116 70	3,296 58	300 00	500 00	49
			170 90			23 33	48 06	
.....	29 30	113 30	1,519 65	1,335 85	1,680 00	500 00	100 00	50
.....	51 50	1,115 00	7,318 10	6,918 31	6,687 05	900 00	1,882 61	51
.....	28 75	215 60	1,908 65	1,903 90	1,796 80	255 00	78 91	52
.....	66 25	127 15	1,984 30	2,215 45	1,413 60	335 85	23 75	53
....	.....	.....	7,613 60	6,944 10	5,751 80	780 75	2,468 15	54
... .	213 65	6 60	7,988 80	7,985 40	5,507 20	1,235 25	1,631 25	55
39 71	62 40	10 06	2,690 70	2,661 30	2,806 10	500 00	535 00	56
.....	68 55	629 38	3,754 35	3,944 70	3,866 25	....	743 17	57
.....	86 05	....	3,370 40	4 244 65	3,919 50	726 50	297 10	58
.....	.....	390 50	2,715 85	2,420 20	2,310 50	450 00	700 00	59
....	52 80	.. ..	2,183 85	2,156 65	2,241 30	520 00	209 05	60
36 00	6 00	442 51	6,610 15	6,789 68	6,313 20	900 20	1,392 00	61
.. ..	.....	..... .	4,121 70	4,080 90	3,456 85	936 00	591 25	62
.....	.....	.....	1,768 55	1,865 00	1,877 35	800 00	9 50	63
			184,326 21	186,069 90	173,340 25			

* Salary.

FEES AND EMOLUMENTS received by the Registrars of Deeds

Schedule A — *Continued.*

No. of reg. division.	Name of Registrar.	Surplus of gross income to municipality under secs. 119 and 120 Registry Act, 1893, as amended by 59 V. c. 29, s. 13.				Surplus of net income to municipality under sec. 121 Registry Act, 1893, as amended by 59 Vic. c. 29, s. 13.			
		32 Amount for 1900.	32a When paid.	33 Amount for 1899.	33a Amount for 1898.	34 Amount for 1900.	35 When paid.	36 Amount for 1899.	36a Amount for 1898.
1	Robert A. Lyon				62 62	116 44	Jan. 15, 1901	48 55	
2	W. B. Wood	13 75	Jan. 8, 1901	30 37	15 60	27 40	" 8, 1901	40 00	30 00
3	Neil Sinclair (act'g).	840 02	Dec. 15, 1900	881 25	848 88	176 94	Dec. 15, 1900	151 18	156 59
	G. D. McKay (act'g)	121 23	Jan. 14, 1901			74 40	Jan. 14, 1901	176 94	
4	Patrick J Coffey	196 56	" 15, 1901	295 60	268 89	70 95	" 15, 1901	92 35	40 58
5	William McKim							4 30	
6	Thomas McDonald								
7	Henry Elliott								
8	J. W. McLaughlin								
9	James H. Coyne	689 23	Jan. 14, 1901	786 32	304 32	364 65	Jan. 14, 1901	429 92	237 41
10	J. Wallace Askin	953 17	" 22, 1901	1,289 07	1,060 67	216 95	" 22, 1901	402 14	291 41
11	J. Duncan Thompson								
12	John Simpson								
13	Patrick McCrea								
14	Robert McKnight	244 60	Jan. 15, 1901	222 00	93 59	188 76	Jan. 15, 1901	162 90	95 25
15	Thos. Lauder	22 33	" 4, 1901	131 57	149 70	9 65	" 4, 1901	50 62	
16	J. Baxter								
17	E. C. Young								
18	David Robertson								
19	Henry W. Day	503 40	Jan. 14, 1901	565 60	411 32	47 84	Jan. 14, 1901	171 71	48 98
20	J. D. O'Connell	1,163 10	" 14, 1901	1,133 13	920 62	511 43	" 14, 1901	595 90	170 79
21	J. P. Gildersleeve								
22	P. D. McKellar	903 92		1,341 50	1,073 52	22 74	Jan. 15, 1901	146 18	112 68
23	A. McLean	1,286 00	Jan 7, 1901	1,249 35	1,115 66	118 79	" 7, 1901	125 73	87 81
24	M S. Anderson (act'g)								
25	James Armour								
26	Welmot H. Cole	31 61	Cr. to C'nty.	34 39	33 82	4 36	Cr. to C'nty.	6 76	5 24
27	S. Gibson								
28	J. G. Currie	50 69	Jan. 14, 1901	80 42	48 40	30 00	Jan. 14, 1901	107 19	106 10
29	W. C. L. Gill	38 78	" 10, 1901	36 41	13 59	67 40	" 10, 1901	90 08	41 00
30	D. R. Springer								
31	John Waters	47 94	Jan 4, 1901	80 39	49 20	57 72	Jan. 4, 1901	142 00	58 24
32	Stephen Blackburn								
33	John Ewart Lount								
34	A.G Browning (acting)								38 78
35	A. J. Donley	145 99		193 40	44 87				11 90
36	A. E. Mallory	9 95	Jan. 15, 1901						
37	F. W. Field								49 32
38	Geo. W. Dryden	34 14	Jan 15, 1901	146 39	66 74	23 38	Jan. 15, 1901	98 32	235 20
39	Alex. Burritt	860 92	" 11, 1901	676 12	550 50	298 53	" 11, 1901	203 25	70 46
40	Geo. R. Patullo	642 65	Feb. 4, 1901	574 90	354 04	137 17	Feb. 4, 1901	94 73	
41	Thos Kennedy								
42	H. Chisholm								
43	D. D. Hay	54 23	Jan. 5, 1901	35 12	2 97	33 16	Jan. 5, 1901	16 37	
44	P. Whelihan								
45	R. Morrow	33 18	Jan. 15, 1901	53 90	72 10	12 38	Jan. 15, 1901	21 66	30 84
46	John Higginson								13 08
47	Walter Mackenzie								
48	F. J. Apjohn								
49	M. M. McKay	54 55	Jan. 10, 1901		109 32	81 96	Jan. 10, 1901	82 32	141 46
	R. A. Campbell	2 70	" 1901			1 32	" 1901		
50	Alex. Robillard	1 96	" 9, 1901						
51	Samuel Lount	1,909 05	" 14, 1901	1,709 15	1,593 52	187 93	Jan. 14, 1901	128 13	139 75
52	John C. Alguire								8 59
53	John M. Munro								
54	Peter Ryan					982 35	Jan. 1901	976 54	444 14
55	Charles Lindsey					1,361 15	Jan. 12, 1901	1,320 05	433 97
56	Charles D. Barr	19 07	Jan. 12, 1901	16 13	30 61	13 16	" 12, 1901	14 41	27 21
57	A. W. Merner (acting)	226 31	" 1, 1901	283 41	259 88	235 47	" 1, 1901	277 02	387 94
58	James E. Morin	201 12	" 8, 1901	397 86	275 85	139 13	" 8, 1901	234 83	192 88
59	John Anderson	21 60				6 60	" 15, 1901		
60	N. Higinbotham								1 45
61	R. K. Hope	1,555 07	Jan. 15, 1901	1,649 84	1,316 91	228 86	Jan. 15, 1901	252 56	185 21
62	James Massie	348 70	" 1901	328 06	141 30	99 15	" 1901	195 08	95 60
63	James J. Pearson								

for the Province of Ontario, etc.—*Concluded.*

Schedule A.—*Concluded.* Net amount received by registrar.			Schedule B. Number and aggregate amount of mortgages registered.							
37 Amount for 1900.	37a Amount for 1899.	37b Amount for 1898.	38 For nominal consideration or amount not specified. Class 1	38 For $1,000 or under. Cl's 2	38 Over $1,000 and not exceeding $2,000. Cl's 3	38 Over $2,000 and not exceeding $5,000. Cl's 4	38 Over $5,000. Cl's 5	39 Total number.	40 Aggregate amount.	No. of registration division.
3,094 73	1,905 47	1,927 87	3	273	28	9	1	314	275,680 72	1
1,773 95	1,900 00	1,800 00	8	294	91	80	12	485	548,455 20	2
2,182 74	2,352 75	2,365 38	10	402	205	127	9	753	965,433 82	3
350 57			2	59	32	16		109	125,480 45	
2,033 84	2,119 40	1,905 80	7	330	128	66	13	544	686,330 96	4
1,486 75	1,598 70	1,495 55	7	213	66	75	6	367	413,748 00	5
1,114 43	1,096 83	1,020 74	.....	144	68	43	1	256	295,662 76	6
678 00	606 75	769 45	.... .	73	33	29	4	139	198,971 00	7
363 43	465 38	472 89	2	45	23	26	1	97	145,383 52	8
2,764 66	2,829 92	2,553 98	6	489	191	103	12	801	959,133 11	9
2,506 22	2,802 13	2,679 97	7	570	180	95	12	864	944,748 70	10
1,483 60	1,523 70	1,467 15	.....	218	55	46	4	323	348,056 56	11
1,167 48	1,133 29	1,148 00	.....	140	67	29	1	237	257,716 00	12
949 20	1,023 60	796 00	.....	189	71	18	4	282	452,996 84	13
2,440 46	2,269 94	2,131 51	7	345	122	74	5	553	601,297 68	14
1,564 56	1,943 71	1,962 80	11	277	126	49	1	464	492,003 93	15
1,043 51	1,116 16	1,344 37	1	191	70	32	2	296	316,870 00	16
247 50	272 50	253 00	2	31	1	1	.....	35	14,948 00	17
1,030 55	1,316 87	713 92	5	120	50	51	8	234	357,587 53	18
2,481 78	2,400 70	2,351 16	2	407	89	43	13	554	591,322 69	19
2,911 42	2,982 32	2,398 55	23	516	244	235	17	1,035	1,489,809 06	20
446 45	495 95	568 53	1	84	26	14	13	138	294,801 00	21
1,704 69	2,334 76	2,200 73	10	663	216	134	19	1,042	1,150,735 56	22
2,225 17	2,252 93	2,101 26	17	700	236	117	11	1,081	1,102,545 03	23
894 25	789 95	696 70	.. ...	73	32	22	2	129	174,017 30	24
1,504 50	1,497 50	1,488 96	12	273	97	44	8	434	466,592 55	25
1,539 24	1,560 91	1,547 21	3	273	81	62	7	426	527,645 44	26
1,462 95	1,493 40	1,090 60	2	189	65	47	2	305	356,107 00	27
2,220 33	2,285 99	2,280 81	3	274	77	48	8	410	514,998 82	28
2,087 00	2,074 42	1,854 84	6	349	84	46	16	501	729,158 24	29
769 54	* 600 00 652 60	1,079 74	1	63	10	4	.....	78	49,931 50	30
2,019 76	2,068 84	2,024 22	.....	260	150	137	3	550	576,944 85	31
1,200 80	1,263 95	1,224 40	1	155	64	31	5	256	311,634 94	32
1,383 45	1,409 38	1,279 37	4	179	7	4	2	196	120,332 90	33
914 36	242 55	299 99	.....	71	8	2	1	82	62,839 28	34
1,991 76	2,298 20	1,887 88	.....	362	100	48	4	514	475,876 00	35
1,589 55	1,839 86	1,607 14	.....	172	54	23	5	254	302,965 20	36
642 30	586 44	842 18	3	62	25	24	3	117	173,999 00	37
1,710 44	2,143 29	1,943 84	1	225	96	68	14	404	657,656 17	38
2,696 58	2,464 79	2,548 91	13	527	224	88	43	895	1,333,205 00	39
2,466 05	2,447 62	2,209 22	9	425	155	156	23	768	1,117,030 00	40
893 42	1,071 90	812 30	10	94	11	2	2	119	78,334 45	41
950 75	899 50	650 79	4	112	66	57	8	247	384,941 43	42
1,831 69	1,612 26	1,351 42	9	250	129	132	17	537	803,120 43	43
612 00	787 55	695 95	2	91	59	53	3	208	284,628 50	44
1,623 77	1,721 94	1,777 56	1	229	76	47	9	362	403,964 88	45
1,499 44	1,332 05	1,616 77	.....	286	91	44	2	423	408,243 42	46
817 58	761 05	666 16	.....	184	47	23	2	256	224,406 00	47
308 05	299 05	1,120 15	.....	49	8	7	3	67	88,281 76	48
1,042 01	2,043 89	2,315 80	22	293	59	36	4	414	445,743 57	49
99 51				18	5	5		28	31,377 40	
919 65	833 85	1,137 00	.....	203	55	11	.....	269	211,374 44	50
2,438 51	2,262 53	2,309 04	6	740	218	120	23	1,107	1,173,365 81	51
1,359 14	1,587 51	1,585 89	1	230	57	25	4	317	321,871 06	52
1,648 45	1,844 65	1,205 32	4	132	24	13	6	179	240,639 70	53
3,382 35	3,376 55	2,844 14	8	483	253	232	95	1,071	4,335,968 00	54
3,761 15	3,720 05	2,833 98	21	550	281	154	31	1,037	1,509,408 00	55
1,622 97	1,629 76	1,744 93	5	211	80	63	13	372	470,126 00	56
2,549 40	2,646 37	2,787 94	6	357	122	122	25	632	989,593 31	57
2,306 55	2,547 94	2,649 86	4	323	80	32	3	442	400,737 00	58
1,565 85	1,485 20	1,460 50	9	281	118	104	10	522	638,824 00	59
1,454 80	1,451 10	1,513 10	5	192	80	71	13	361	857,686 16	60
2,534 02	2,589 33	2,463 23	8	463	252	128	17	868	1,156,300 00	61
2,146 60	2,465 46	2,132 00	2	249	97	67	27	442	653,450 00	62
959 05	1,058 75	1,070 10	2	171	52	35	5	265	309,138 50	63
104,365 26	106,441 69	101,078 55						27,867	37,501,176 13	

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NINETEENTH ANNUAL REPORT

OF THE

PROVINCIAL BOARD OF HEALTH

OF ONTARIO

BEING FOR THE YEAR

1900.

PRINTED BY ORDER OF

THE LEGISLATIVE ASSEMBLY OF ONTARIO

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TORONTO.

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NINETEENTH ANNUAL REPORT

OF THE

PROVINCIAL BOARD OF HEALTH.

INTRODUCTION.

TORONTO, March 31st, 1901.

To the Honourable SIR OLIVER MOWAT, K.C.B., *Lieutenant Governor of Ontario.*

MAY IT PLEASE YOUR HONOUR:

The Provincial Board of Health desires herewith to present for your approval its Annual Report for the year 1900, being for the eighteenth year since the Board was organized.

It gives the Board much pleasure to inform you that the public health of the Province at the close of the year and the century is such as to give cause for great thankfulness on the part of our people to the Giver of Good, and of much satisfaction on the part of your Government, who have shown a constant interest in the welfare of the people. The Province has for so many years been free from the ravages of any of the great death-dealing epidemics, which in the earlier years of immigration and settlement in Canada were not infrequently occasioned by invasion from foreign countries, that we have become forgetful of the superior privileges we in Canada enjoy in matters of health, and do not fully recognize what valuable social and economic advantages accrue to every State where the people live on a high plane of general comfort and do not have their vitality lowered and their financial energies exhausted through the prevalence of fatal communicable diseases.

The year has, however, been marked by the presence of smallpox at several points in the Province, which, had not promptness marked the action of the local health authorities, would have occasioned most serious results. The outbreak in Essex of a mild type at the beginning of the year was suppressed, but only after a notable expenditure by the local authorities, while in May an outbreak, the details of which are given in Part II. of this Report, due to an undiagnosed case imported to Winnipeg from the Orient, of such virulence as to virtually create a panic, occurred at various points along the line of the Canadian Pacific Railway, as Port Arthur, Fort William, Sault Ste. Marie, Wolf River, Arnprior and Carleton Place. The action of the Local Boards of Health at every one of these centres was such as to limit the outbreak to the second series of cases, and proved equally the intelligence of our people in readily submitting to vaccination in the

presence of grave dangers, and of the perfectly protective value of vaccination in the presence of a type of disease so severe as to result fatally in some 50 per cent. of all attacked who had not been vaccinated.

The present year, 1901, whose first quarter's reports are herein included, finds the Province face to face with the most extended outbreak of smallpox which has appeared since 1885. The mildness of the type is similar to that which has been present in most parts of the United States during the two past years, whence the first cases were introduced, *via* Sault Ste. Marie, into our lumber camps.

The presence in the large area between Georgian Bay and Sault Ste. Marie and the main line of the C.P.R. from Sudbury northward of hundreds of lumber camps and thousands of workmen made the situation extremely serious; so serious indeed that the Provincial Board of Health has had to undertake the personal supervision of the whole district, has instituted an inspection of all trains going eastward to Sudbury and has established an isolation tent hospital, which at the time of writing has over 100 smallpox patients and suspects.

Fortunately the mortality has been unusually low and the Province has been saved the loss of hundreds of valuable lives ; though this very fact of a mild type of disease has made the task of early diagnosis and prompt isolation extremely difficult for the various local health authorities.

Outbreaks of the several other communicable diseases do not call for any special remark, as they have with the exception of typhoid shown on the whole a lessening tendency, and the total mortality from them has been very low as compared with a few years ago. This fact is attributed by some to the mild type of the disease ; but this is most probably due to the few instances where a first case is allowed, as in diphtheria, to become severe through failure in diagnosis, as where a physician is not called in, thereby setting up a more severe type as may be proved by experiment in the bacteriological laboratory.

The intimate dependence of typhoid upon meteorological conditions has not in recent years been better illustrated than in 1900. As will be seen in the report of the Committee on Contagious Diseases for the 4th Quarter, this matter is referred to at some length. There was an exceedingly hot and dry period in August followed by an autumn of unusual mildness with an excess of rainfall, yet with a very prolonged period wherein a still air with pleasant, sultry weather made a practically saturated atmostphere promotive of organic decay and, as has been pointed out, an unusual period during which well-waters were not only scanty, but continued at an unusually high temperature. Thus the usual autumn maximum of mortality from this disease extended even more and into November and December. The excess of deaths from this cause in rural districts and towns and villages not yet supplied with waterworks make the desirability of some more direct means of bringing information on the subject of polluted farm wells and pure water to the attention of these classes in the community.

The most serious problem, however, which the Provincial Board of Health in common with other health authorities has before it is that of lessening the prevalence and mortality due to pulmonary Tuberculosis. Various special reports dealing with this matter will be found printed in Part II. as will also the "Act relating to the Establishment of Sanatoria for Consumptives" passed during the year by the Legislature. The unanimity with which your Legislature adopted the various provisions of this Act shows

how wide-spread the belief in the preventable character of this disease has become and how ready the people are to support organized effort to suppress the disease and to aid in the care of those already infected. What seems especially required is local effort supported by personal interest and individual generosity in giving a positive direction to the legislation for the establishment of such county sanatoria. Were the Board in a position to give the time of its secretary or members to the work of developing local activity there can be no doubt that more rapid progress would be made.

The growing utility of the laboratory attached to the Provincial Board is fully illustrated in the report of the bacteriologist printed as a part of the report proper. There is not only a steadily increasing recognition of the assistance it gives to physicians in the diagnosis of obscure cases, but also a notable desire on the part of Medical Health Officers and Local Boards of Health to utilize the laboratory as an aid to them in making isolation of disease a routine matter, and in preventing the too early discharge of convalescents from quarantine. The many diseases in which physicians and Local Boards of Health are supplied with information are fully illustrated in the report referred to. What, however, is urgently needed is both an increase in the staff of the central laboratory for doing research work, and the development of county, or at least, district laboratories, whereby the work may be still more developed in extent and usefulness.

The report for the year closing the century naturally makes a retrospect of public health conditions an attractive subject. The publication, however, of the Presidential address of the American Public Health Association, prepared by our Secretary who held that honorable position for 1900 makes it unnecessary to do more than remark that in all the progress which has marked the century now past there has been none more notable than the evolution of Scientific Medicine and the placing it on a plane side by side with the exact sciences, which are based upon the immutability of law and the exact relationship and correspondence between cause and effect in the sphere of disease.

We trust that the century now entered upon will make yet more complete and practical the conclusions founded upon the principles of Preventive Medicine fixed so securely in the past on an enduring basis.

I have the honor to be,
Your obedient servant,

HARRY S. VAUX,
Chairman.

ANNUAL REPORT

OF THE

PROVINCIAL BOARD OF HEALTH.

REPORT OF THE SECRETARY.

CHAPTER I.

Your Secretary begs leave to report that the end of the year 1900 and the end of the century finds the Province enjoying in a large degree freedom from the preventable diseases which your Board is called upon to deal with under the Public Health Act. The continued relative freedom of Ontario from communicable diseases has been so ordinary a matter of reference in your late annual reports that we might naturally be led to conclude, if comparison of the present with the past were made, that climatic conditions have so changed that this class of disease now finds the soil in this Province no longer congenial for their development. Reference has in past years been made to the very remarkable decrease in the communicable diseases with which we are familiar. The Registrar-General's returns for 1899 give the following :

Deaths from Communicable Diseases in Ontario in 1899.

Population.	Influenza.	Smallpox.	Scarlatina.	Diphtheria.	Measles.	Whooping Cough.	Typhoid.	Total.
2,302,705	990	7	246	599	40	124	452	1,468

To this may further be added the monthly returns from 93 per cent of the population to the end of 1900.

TOTAL DEATHS FOR THE PROVINCE OF ONTARIO FOR YEAR 1900, AS REPORTED MONTHLY TO THE PROVINCIAL HEALTH OFFICE, 25,382, OR 11.9 PER 1,000. AVERAGE POPULATION REPORTING, 93%.

The following Table shows Deaths from Contagious Diseases.

Scarlatina.	Diphtheria.	Measles.	Whooping Cough.	Typhoid.	Consumption.
133	486	93	121	550	2,360

Deaths from Contagious Diseases by Months.

	Scarlatina.	Diphtheria.	Measles.	Whooping Cough.	Typhoid.	Consumption.
January.....	13	51	2	4	16	183
February.....	14	39	7	3	13	186
March	23	34	22	7	16	188
April	15	24	27	11	9	203
May	8	27	13	8	15	239
June	6	30	1	7	11	200
July	9	44	9	7	15	264
August	8	31	1	14	44	180
September....	3	42	2	20	58	172
October	8	44	2	10	120	169
November	12	50	3	20	141	161
December	14	70	4	10	72	215
Total	133	486	93	121	550	2,360

Total Deaths per Month.

Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
1,771	1,962	2,330	2,311	2,162	1,752	2,021	2,371	2,490	2,056	1,984	2,172	25,382

These results are especially gratifying as a mark of the scientific progress of the century just closing, and have before been illustrated in many ways. Comparative statistics for Ontario are not available with one hundred years ago, when there were not in all Ontario more than 30,000 people who had so recently settled and were so widely scattered that no records regarding disease are obtainable In fact the few historic details of the time have to do rather with the immediate needs of a people settling in a primeval wilderness whose annual town meetings were limited to discussing how high the rail fences should be for keeping the cattle in check and the size of the yoke which the hogs running at large as commoners should wear. But all this is not surprising when the hardy life of the pioneer and the absence of towns made life in the open as healthful as possible, and moreover the time had not arrived even in Europe when the prevention of disease was either understood or seriously attempted. Reference to the position of Public Medicine during the past century has been referred to at length in a recent pamphlet issued by the Board, in which is indicated how in England the last fifty years saw the dawn of Public Medicine as a systematized branch of Government effort, while not till the last quarter of a century had the science of medicine advanced to that point where the causation of many diseases began to be looked upon as demonstrable as a proposition in Euclid. *Omne vivum ex ovo* is a dictum which began to be accepted by scientific men only at that time, and while the term *materies morbi* existed, it really was a term used to recognize the existence of a cause, but when or what that cause was had not been positively determined.

Even many who have lived through the period during which these changes have taken place fail to recall fully the stepping-stones of their own progress So many illusions appeared that it seemed hopeless to expect the existence of a reality in this matter of contagion. And yet the process has been very rapid since the moment when the feet first felt solid ground. It is almost within the history of your Board that the first progress was definitely announced. But while the cause of tuberculosis was only tentatively given to the world in 1882, the year when your Board came into existence, though diphtheria as a microbic disease was only suspected in 1887, while the typhoid germ was differentiated about the same time, and though scarlatina, smallpox, whooping cough and measles have yet to have their specific cause fully demonstrated, yet the principle, *omnis cellula à cellula* of Pasteur had in 1876 been definitely fixed as a fundamental principle of life, and for practical purposes your Board with other health authorities has, since then, had data of so positive a character, that it has been enabled to put in practice those practical sanitary

measures which, to some extent existing before, were henceforth to be based upon scientific facts regarding which there could no longer be any serious question.

And no sooner was your Board organized than it had an opportunity of putting its beliefs into practice. During the very first session an outbreak of smallpox in Windsor demanded action. The town medical officer demanded that in the interests of the public, all patients rich and poor alike should be removed to the so called pest house. The order was made and the isolation of patients, the quarantine of suspects carried out, and final disinfection performed with the same thoroughness, if not with the same confidence regarding results as to-day.

Again, the town of Sarnia had at the same time a severe epidemic of typhoid. The germ of the disease had not been discovered but observation had associated outbreaks with water-supplies. On investigation it was found that a sewer emptied its contents into the St. Clair River at a point where contamination of the drinking supply was inevitable, and while no counting of bacteria in the water was yet practised, yet it was possible to discriminate between pure river water and that contaminated with town sewage by the excess of chlorine in the latter. Other cases might be cited, such as the positive opinion gained from observation and experience that foul air in gaols, hospitals and similar institutions meant a high mortality, and that a simple way of measuring its impurity was by the amount of carbonic acid in the air which could be estimated.

Indeed a review of the annual reports of those earlier years of the Board's work shows that there was then a fixed belief in the existence of causative influences which, with a very acute sense of the needs for improvement, gave to the Board's work an agressive character, which recent years have seemingly tended somewhat to decrease as the evils to be combatted have become gradually less. Then the work and workers were as the apostles of a newly found faith, and the number of subjects dealt with by the Board will be found surprisingly large by those caring to examine those old reports. To-day, sanitation has come to be taken as a matter of course, and the distinctly personal character of many of its precepts has to a notable degree been lost. To day the public have relegated it to the public health officials much as the religious and secular instruction has on the part of parents been too largely turned over to the clergyman and the teachers of our schools. The process has perhaps been a natural and inevitable one, but the results are apparent. The sense of personal responsibility in matters of health, as of education and religion, has become distinctly lessened, and when untoward events occur, some one,—of course not oneself—is to be blamed. The condition is illustrated in many ways. Thus a hundred years ago vaccination had been demonstrated to be a scientific discovery, which during a century has rendered possible the almost complete elimination of smallpox from our bills of mortality. Now that the danger is not present with us, as it was then, a notable number of people have been led to believe that it is useless, unnecessary, and even criminal. It reminds us of the vine dressers of the fertile slopes of Vesuvius, who being for years unharmed by the seemingly extinct fires of this Vulcan's forge, had pushed their gardens higher and higher up the slopes until that fatal night when some Titanic convulsion caused the lava streams once again to overflow, and silence forever their scepticism and temerity. Or again! many years ago we were taught that foul house-air meant ill-health, and the Rawlinsons, Chadwicks, Parkes, and Simons of the middle of the century in words as living and forceful as of the prophets of old, taught that dirt in food, and air, and water, meant disease and death and measured it statistically; while to-day we have municipalities relaxing the laws regarding the ventilation of school-buildings and factories, and the public and their architects indifferently permitting the "economy" furnace agent to return to him his own foul emanations to be breathed over and over again, and to call it scientific house warming.

A few years ago we learned the use of certain chemicals as germicides, and taught the public their uses in the destruction of house infections, and so notably lessened the prevalence of contagious diseases. To-day in a dozen forms we find the same class of drugs used to preserve impure milk from going *bad*, and being added to foods in half-a-dozen forms to hide defects which would properly forbid their use. For years the dissemination of tuberculosis from diseased animals has been taught, and for a time the people believed; but to-day the public have ceased to believe and have almost calmly accepted the proposition of the producer or vendor that the whole thing is a phantom of the imagination. Nevertheless the death-rate from this source increases rather than lessens.

It is apparent then that society has for the moment in many ways grown tired of striving, and individuals are not to be readily roused unless by some "new sensation." The flux and reflux, have however, ever marked human progress, and in health matters it may be quite true that the public enjoying the many benefits which the remarkable evolution of public health measures has brought about during the last quarter of a century have forgotten

"The hole of the pit whence ye are digged."

Turning from these reflections which the close of a century of public health progress has called up, it is proper that I should refer briefly to the state of several diseases which the Board has had to deal with during the past year.

Smallpox. The year has not passed without seeing the introduction at different points of cases of smallpox. Indeed, the beginning of the year saw the disease still present in a few cases in Essex, where it had prevailed for two months in several townships.

The following table gives the location and extent of the several outbreaks:

SMALLPOX IN ONTARIO DURING 1900.

County.	No. of municipalities.	Cases.	Deaths.	Month.	Source of infection.
Essex	3	6	.....	February...	Detroit.
Middlesex	2	2	.....	February...	"
York	2	18	.....	February...	Indiana.
Lambton	1	1	.....	January...	Railway cond'r.
Lanark	1	6	2	May	Michigan.
Renfrew	1	1	1	May	Traveller from Japan.
Thunder Bay	4	17	6	May	"
Simcoe	1	1	.....	May	"
Algoma	41	4	1	May	Detroit.
	2	5	.....	December ..	Port Arthur case.
1901—Algoma	5	100	3	January ...	Michigan.
	Many lumber camps.			February ..	Michigan.
				March	

The Province has much reason to congratulate itself that with so many importations the disease failed to obtain any serious or permanent foothold. The deaths fortunately were few, as the type of disease imported from neighboring States was mild; but a notable exception is seen in the cases referred to in special reports in Part II., in connection with outbreaks caused through the importation of disease by way of Vancouver from Japan. The question of the type of disease will be found discussed in a succeeding chapter; but it may here be stated that one of the difficulties your secretary has experienced in dealing with the outbreaks of recent disease has been due to their successive mildness. It has always been common experience that measles has spread rapidly as an epidemic in those communities where, as in Ontario, it has been mild in type; and in certain classes of the community smallpox as it has recently appeared in the northern lumber camps, has been looked upon by many in much the same way. But the excessive contagiousness of the disease and the persistent vitality of the germ, not to mention its loathsomeness, must even in the mild form ever prevent it being looked upon by our people as a disease which can for a moment be dealt with in other than the rigorous manner which has characterized the Board's work during the past nineteen years. The extent of the outbreak, which, through its character not being recognised, exists in the lumbering districts of northern Ontario at the time of writing, has become such as to call upon the Board to make unusual efforts for its suppression. To understand how it has become necessary to establish a smallpox camp under the supervision of the officials of the Board directly, it is necessary to remind you that some 25,000 men are employed

in lumbering largely in the unsettled territories without municipal organization, and that in camps many miles from railroads and physicians, the presence of disease may exist for weeks or months unless it take on such a virulence as to cause deaths and consequent panic amongst the men, who then may leave only to carry the disease far and wide to other camps or distant settlements.

At the present this hospital camp near Sudbury consists of six large double-walled tents 30 ft x 15 ft., wherein are some fifty patients, under the care of a physician specially detailed for this duty, while cooks and all the necessary accompaniments are under the charge of the Chief Inspector. The Canadian Pacific Railway have assidnously seconded the efforts of our officers and have set apart a car for transportation to the smallpox hospital of patients who are brought out from the lumber camps. This work has been extended, in view of the thousands of men returning to the eastern settlements after their winter's work, to the inspection and vaccination of all the men, with the disinfection of their clothing and luggage in a steam disinfecting station constructed and equipped near the railway station. This task of inspection and disinfection adequate for handling several hundred men daily is unique as perhaps our first example of an extended system of inland inspection and disinfection intended to deal with thousands of men. The protection to the municipalities will be judged by the fact that already owing to the return of men from the woods some twenty municipalities have had cases of the disease introduced before inspection was instituted. Its successful results in rapidly suppressing disease can, however, hardly be doubted.*

The year has again illustrated certain facts regarding the transmission of smallpox, which have been taught time and again in previous epidemics, but which, if we are to judge from experiments of the "new science" of disinfection as set forth by such prominent officials as the port officer of New York in a recent publication, must once more be asserted with all the vehemence which as an executive officer encountering smallpox cases not at the port but inland, I may be expected to judge of as to how far the theory that infection is not carried in the clothing worn by "immune" persons is in keeping with the facts.

Dr. Doty of New York, states in a published pamphlet containing an address read before the Am. Public Health Ass. in October, 1900: Page 2, "*Contrary to the popular belief, the most careful investigation, both from a scientific and practical standpoint, has demonstrated that the clothing actually worn by well persons is not a medium of infection. This is also true of ship's cargoes.*"

Your Board will recall a genealogical tree of smallpox published in the Report of 1886 and referred to in the following paragraph, where a party of Russian immigrants, protected by vaccination after one of their number developed smallpox during the ocean passage and had been taken off at Grosse Isle quarantine, below Quebec passed west to Manitoba, and though not a single one developed the disease, transmitted it by contact on trains and boats to other immigrants going to Michigan, Illinois, Manitoba, Dakota and Ontario.

"Having proceeded to Quebec, and subsequently to Grosse Isle, I learned from Dr F. Montizambert, Chief Quarantine Officer of the/St. Lawrence, that Russian immigrants suffering from smallpox had been landed at Grosse Isle about 13th of May. Imagining that their fellow passengers might have passed on the way to Manitoba via Lake Superior, I at once wrote to Mr. Beatty for information on this point. He promptly replied that certain Russian immigrants had passed up the lakes on May 20th, per S.S. Athabasca, and as I had learned that none of her crew were from Lower Canada, where smallpox had been so prevalent, I at once connected the outbreak in the persons of two of the crew with these immigrants. To show that the contagion had been carried on this steamer either by persons, clothing or baggage, I was soon to have ample proof. On the 30th of June I received a telegram from Dr. J. Hamilton, Supervising Surgeon-General U.S. Marine Hospital Service, and some days afterwards similar information from Dr. H. B. Baker, Secretary Michigan State Board of Health, that a man named Montgomery had entered Michigan via Sault Ste. Marie and had taken sick with smallpox at Stalwart, Chippewa County. I found later that he had gone from Harriston, Ont., to the Sault on the S.S. Athabasca of May 20th. Having further noticed the occurrence of a case of smallpox about the same time in Woodlands, Man., and believing in its possible connection with the same Russian immigrants, I wrote for information to the Deputy Minister of Agriculture, Winnipeg. Acton C. Burrows, Esq. He promptly replied, courteously forwarding as soon as obtained information to the effect that a Mrs. A. Church had arrived at Halifax on April 4th, and had passed via C. P. R. direct to Winnipeg; that there had been no smallpox at the place she left in England; that there had been none on the Allan S. S. Parisian, of which she was a passenger, but that she had remained at the Dominion Immigration Building in Winnipeg till about the end of May (five days, say, after the Russian immigrants must have reached there), and that within less

* This report being delayed in publication finds camps disbanded, some 500 people having been quarantined, 160 cases being smallpox, and epidemic suppressed in June, 1901.

than two weeks from the time she left immigration building and had reached Woodlands, she was taken sick with smallpox. I was further informed regarding cases of smallpox in Norfolk County, Man., beginning in the person of a man Donald McCuaig, from Chatham, who had arrived in Manitoba about the end of May. Evidence to the effect that he had gone up by the S.S. Athabasca, or had been in the immigrant building has not been obtained. The matter had now become so interesting that I followed out any clue that might connect other cases with these immigrants and the S.S. Athabasca.

By newspaper reports I further learned that a family named Skein, Canadians from Manitoulin Island, had been taken sick with smallpox in Dakota. I at once wrote Dr. Francis, Manitowaning, for information regarding the route taken by this family. A kind answer containing the following facts was promptly received by me:—There had been no smallpox on Manitoulin for a number of years, while this family in going to Dakota had first taken a local steamer to Owen Sound; thence they went northward by the C. P. R. steamer Athabasca on the 20th May. The time of their falling sick corresponded with the period during which they could have been exposed on the Athabasca. About this time a report came from Michigan that other cases of the disease had broken out in Wayne County and in Detroit. The information received also connects the Wayne County outbreak with the same Russian immigrants. It occurred in the person of a German immigrant, who had entered Michigan via the St. Lawrence and Ontario, between the 15th and 20th May, and must therefore have travelled west, probably in the same car, or stayed at the same immigrant sheds as did the aforementioned Russians. Cases in Illinois are also stated to have occurred about the same time in immigrants who had passed through Canada. The following particulars regarding these cases have been received."

During the present year (1900) the widespread outbreak of April and May, infecting persons in Manitoba, Ontario and Quebec, resulted from a single case who had left Australia, touched *en route* at Japan, and apparently from goods purchased there and opened during the voyage had contracted virulent smallpox, which did not develop till between Calgary and Winnipeg, at which latter place he was removed suffering from an undiagnosed disease to the General Hospital, and there died of haemorrhagic smallpox, which had been called purpura haemorrhagica, and the body placed in the morgue awaiting transhipment to friends. Fortunately the Medical Health Officer's suspicions were aroused, and he, inspecting the corpse, diagnosed smallpox and acted accordingly. The Pullman car went on its journey to Montreal and had again returned to Vancouver before it was known that the passenger, Mr. Findlayson, had died of smallpox. Now the sequel!

On May 16th the Secretary of the Manitoba Board of Health wrote that already 20 cases had grown out of the exposure to Finlayson either in railway employees or inmates of the hospital, with three deaths to date. The car "Tokio" proceeded east on April 12th. A Mr. Drury who had travelled from Rossland, probably associating with Finlayson went to the Windsor Hotel, Montreal, sick, and was the cause of six cases and two deaths. Mr. Tierney, C. P. R. railway agent at Arnprior, had likewise journeyed with Finlayson west of Winnipeg; stayed a day in Winnipeg and then proceeded to Arnprior, where in 12 days he sickened, and died on May 4th. This would seem to have been all the persons either in Ontario or Quebec who took the disease from being in the car with Finlayson; but by no means the end of the cases. On May 3rd, Dr. Beck of Port Arthur, telegraphed that conductor J. J. Webb was sick with smallpox, and the assumption was that he had been conductor on the "Tokio." I was personally informed however, by the conductor, who actually carried the "Tokio" through, that Webb was not on the "Tokio" at all but had brought down the train of the succeeding night, but that he had sat and chatted with Tierney, who had been exposed west of Winnipeg to Findlayson, and who did not sicken till 12 days later. But further, the same conductor informed me that Mr. Elliott, mechanical superintendent, C.P.R., at Carleton Place, came on board at Whitefish with his son, and journeyed with Tierney, all being employees of the railroad, and on May 4th I received a telegram from Carleton Place stating that the boy Elliott was sick with smallpox. Yet one more case occurred—but whether from the "Tokio" or the exposure to Tierney has not been determined, in the person of J. Whalen, a contractor of Port Arthur, who took ill of undiagnosed smallpox about this date. He had to frequently leave on the local trains, having contracts along the railway. From exposure to him members of his family, a partner in business, his foreman, the manager of a mine, and the washer-woman, in all nine persons took the disease.

The point then seems proved beyond question, that from the clothing of Tierney, conductor Webb and the boy Elliott were infected, and possibly Whalen; and what is further most satisfactory to note the "Tokio" after being cleaned at Montreal in the routine fashion, did not apparently infect a single person on its return journey to Vancouver.

In the outbreak now existing, another case may be cited. A workman, who had been in the infected "Soo" district, returned to his home in Tay Township about March

1st, and though he had not recently had smallpox was the means of conveying the disease to his brother, who sickened on the 10th of March, having been more or less constantly in his company, and through whom the disease was spread to three municipalities.

With facts such as these repeating themselves in outbreak after outbreak, it would seem that the protest made by several experienced officers at the Indianopolis meeting of the American Public Health Association against such *dicta* as those set forth in the report of Dr. Doty, was based upon an accumulated series of facts, which perhaps the writer had not the means of personally verifying, but which nevertheless are so well substantiated. that the argument of Dr. Doty for the passage inland of persons, whose clothing may have been exposed to contagion in infected ships, is not only wholly unwarranted, but further would become if accepted and acted upon, a most serious menace to public health interests.

The quarterly and special reports found in Part II of this Report will be found to deal further with various matters affecting the dissemination of smallpox in the Province.

Diphtheria.—It was remarked in the report of the quarter in May, " that the monthly Bulletin issued by the Board shows much the same distribution of this disease as in the same quarter of the previous year, with some limitations " The same remark holds good for the disease throughout the year. The report for the fourth quarter gives the following comparative tables for the cities of the Province during the two years, that for 1900 being completed.

Deaths from Diphtheria in Ontario Cities by Months

1899	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	10	13	9	12	8	14	11	11	10	16	13	15
1900	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
	11	17	15	13	16	14	18	13	28	19	27	22

The remarkable decline in the deaths from this disease has become one of the most notable illustrations of the progress of Public Medicine during the past decade. The following table from the Annual Report of the Registrar General indicates the mortality during several periods and years in Ontario.

Deaths from Diphtheria and Croup in Ontario.

1887	1,786	1897	976
1893	1,044	1898	634
1894	1,075	1899	599
1895	942	1900 (monthly reports)	480
1896	925		

Such results are not at all peculiar to Ontario, since many cities both in Europe and America have shown equally great reductions. The study of the accurate statistics of any locality illustrates, however, how in a very high degree the disease partakes of the characteristics of an acute epidemic disease. Until the last decade this feature of the disease was much in dispute, and climatic causes were stoutly insisted upon as being a chief cause of its prevalence. Fortunately, however, your Board early recognized the zymotic character of the disease and as early as 1887 published a special report pointing out its essentially communicable character. That this was not then commonly recognized is seen in the fact that London had not until as late as 1894 made any serious attempt to provide for its treatment in the Metropolitan Asylums Board's Hospitals. As early as 1891 an Order-in-Council was passed in Ontario giving special powers, similar to those for dealing with smallpox, to your Board. That these views and powers have done much in educating the public and in assisting Local Boards of Health to suppress out-

breaks there can be no doubt; nor can there be any doubt but that the disease once begun as an epidemic demands practically as thorough means as smallpox for its eradication. In the statistics of Ontario cities given above it is readily seen that in the two years, 1899 1900, nearly all the deaths were in three cities and in 1900 almost wholly in one. The same fact of local epidemic outbursts is found by reference to the statistics of former years, as that of 1891, where the city of Guelph had 39 deaths in a population of 10,000, or Toronto 387, in 1892, in a population of 188,333. It is deemed of much importance that these facts be insisted upon since there is incidental evidence going to show that with the decline in the deaths from diphtheria, owing both to the mildness of type in some instances, and to the successful results of the anti-toxine treatment, its old contagious character or that of the persistence of the contagion is being to some extent overlooked. The following letter with due allowances is given to illustrate :

EMBRO, June 3rd, 1901.

To the Provincial Board of Health, Toronto :

DEAR SIR,—At Christmas time last year a little boy took sick with sore throat. The parents told outsiders that it was tonsillitis. The father was sick, three boys were sick, and last the mother took it and died. The public was alarmed. The regular doctor went away to Toronto to get married, while the mother was sick, and left another doctor in his place. Medical Health Doctor was called in a hurry, but the mother was dead before he got there. Did not examine them to see what was the matter, just asked, and the father told him it was tonsillitis, but said she died of heart failure. Family feeling so bad he went away. This same doctor was there three times when one of the boys was sick, had three doctors in all, warned the married daughter, who had three little children, to keep away as it was infectious The man went to woman to lay his wife out. Medical Health Doctor told one woman, a relative, to keep away, as it was catching. Allowed the children to go out One boy met my son, thirteen years of age, going to school at half past twelve, noon, sat in the same seat with him, did not attend school that week—this was Monday noon. Thursday my son complained of sore throat Called a doctor, told me it was not diphtheria, sick one week and then died. Sent a swab off to be cultured, word came back "diphtheria" after my boy was dead. Four other children took it and myself. We were quarantined, as were four other families. The first family had not been quarantined and every case was traced directly to them. One of his daughters was away to High School. she came home when her mother died, she also took diphtheria. A woman staying in there when she was sick said she knew it was diphtheria. In spite of the warning the married daughter had after her mother died, she went home. She also took it, as well as her little boy who died. They then quarantined them after the disease had spread. My daughter, aged nineteen, with her second class certificate, was ready to teach school. We thought she would die. It is four months since she took it, and she has never got over it. She cannot walk yet, and it left her with nervous prostration. We have had two doctors; they told us she would not get well at home, so we took her on a stretcher to Woodstock hospital.

Now we have a number of men comprising our Board of Health, but they never made an effort to shut out this first family "Day" is their name—Day came down to our place one night when they were sick, rubbed his hands over my boy's throat, and asked him was his throat sore—but the Reeve went to the Doctor and asked him if it was contagious, he (the doctor) said yes; he then got papers out and the doctor refused to sign them, so he went to the Medical Health Doctor, said something must be done, but neglected to do it. Diphtheria germs in their throats, children were allowed to go to school. Medical Health Doctor said he did wrong, and the regular doctor, that if he had been home would have quarantined them. You may know something was wrong; when the daughter came from Woodstock they were not going to let her in, so she took it, and then they were quarantined, and the school shut up.

Now, what redress can I get for my boy's death and my daughter's illness, the doctor coming two and three times daily for over a month? You can imagine what a bill, all through neglect of their duty in complying with the law. We were quarantined five weeks, and if they had done their duty first! Can we be made pay the doctor's bill and other expenses through neglect? Who shall be looked to; the Board of Health, the Medical Health Doctor, or regular doctor, or the doctor he left in his place? Their neglect has put us to a great deal of suffering and sorrow, and expense and trouble. My husband is only able to work part of the time and we have to pay house rent. Please let us know, and also can a doctor collect his bill for treating a patient wrong?

(Address) MRS. GEORGE GOULD,
Embro, Ont.

P S.—I may say the Board of Health sent a nurse at their expense and employed a messenger, but they would do no more.

The immediate cause for this is not far to seek. Formerly the twenty-eight days' isolation of a case was insisted upon, and with good reason. If the case lived to convalescence, it was usually only after membrane had continued to form for seven to twelve days. The exhaustion was extreme and medical attendance was necessary for several weeks. To day, after early and adequate injections of anti-toxine the child seems actually recovered in many instances within a fortnight. And in this the danger of its spreading actually exists. The physician has ceased his attendance. The isolation is relaxed, even a certificate of recovery given and the premises disinfected. But the infection still frequently is present, the bacillus living on as a saprophyte, harmless through the developed resistance of the system, but readily given off in buccal and nasal discharges to become infective for other vulnerable persons. Indeed, it has not been unknown to see

set up again in the same patient, a re infection and re-development of membrane, the protection of the anti-toxine being short lived, should the throat through exposure have become again congested. Another point and one of much importance is the persistence, as shown by swab cultures, of the bacilli in the throats notably of convalescents and even well throats of those in hospitals where other cases are. Indeed, this persistence has become in many instances the occasion of loud protests from patients and even physicians where a child has been kept isolated week after week owing to successive swabs showing the bacilli still present. If thought be given for a moment to the point the wonder is that they ever disappear in such places. Unfortunately ventilation even in many of our best hospitals is defective, and as the bacilli are given off from the throats of the sick they are carried dried or in floating pellicles of moisture upon the air, to be inspired by the inmates of the room. Hence not only are bacilli found in the throats of the sick but those of the nurses, and even of the physicians of the attending staff have been proved at times to carry them. We take the most complete precautions to change clothing and disinfect every exposed part and the mucous membranes after visiting a case of smallpox; but it is common experience that the physician will visit diphtheria and even scarlatina patients without thinking it at all necessary to take any special means of disinfecting his clothes or face and hands when exposed to infection, much less his respiratory passages.

In more than one instance the bacteriologist and laboratory authorities have been made the subjects of criticism as not knowing their technique and finding the B diphtheriæ in everything, whereas unfortunately the critics are only illustrating rather their own ignorance or carelessness. The remedy in the case of the hospital is plain, viz, to place convalescents in well-ventilated apartments with solaria and balconies where they may not only recover more rapidly but where the pority of the air will cleanse their infective throats and prevent the inception of the germs from the throats of others.

The other point of importance which must not be overlooked is the repeated infection of the air of school-rooms by convalescents returning before their throats are freed from the bacilli of the disease. Case after case of this sort has been reported, the disease recurring in children from the same school room for months. Fortunately there is a ready means by which these recurring cases may be eliminated by an active health officer, supported by his Board. The visitation of an infected school for a fortnight by a physician and the careful enquiry into the cause of absence on the part of others will so enable the authorities to locate all the cases, since within ten days all cases of incubation will then have developed. In this way mild cases which may never have been treated are discovered and prevented from becoming the vehicle of contagion. The final disinfection of the school and houses made, where the swab culture test is possible, after freedom from bacilli of convalescents has been proved, enables a town to be soon rid of the outbreak, and as shown in the tables for the 13 cities, 4 had no deaths in 1899, and 5 in 1900, while 5 others had but 1 in 1899 and 4 but 1 in 1900.

Typhoid Fever.—As will be seen in the quarterly report in Part II, being that dated Feb. 6. 1901, reference is made, as in the report dated Oct. 15, 1900, to the unusual distribution and prevalence of typhoid fever during the last four months of 1900.

The figures there given are as follows:—

Deaths from Typhoid Fever in Aug, Sept., Oct., Nov, Dec.

Month.	1897.	1898.	1899.	1900.
August	22	34	55	44
September	39	44	55	58
October	45	54	88	120
November	34	50	40	141
December	22	21	25	92

The reference is made to these months since it is common experience that in this climate few cases of this disease occur before the later months of summer. A further

examination of the mortality returns shows that the death-rate in the 13 cities was but 67, and as a matter of fact, as seen from the following figures, the mortality in these, all of which have public water supplies, has been an almost continuously diminishing rate, remembering their increase in population, while the deaths which do occur in them are in fact due to many cases in the general hospitals which have been brought in from the surrounding country.

Deaths in Ontario Cities from Typhoid Fever.

1893	133	1897	117
1894	113	1898	104
1895	157	1899	130
1896	142	1901	112

During the three last years the total deaths in the Province were: 1898, 405; 1899, 452; 1900, 600 (estimated). It is plain therefore that the increase noted during the four months was not due to any general outbreak due to a polluted town supply, and the Province is to be congratulated on the fact that there is not in the 125 public water supplies one that has shown by this crucial test contamination with sewage. Having eliminated this possible source of a large increase, we turn naturally to the returns from the 750 smaller municipalities, town and township, and find that the number of deaths for the population of about 2,000,000 is in the total small comparatively. It is manifestly difficult or indeed impossible to enter upon the details regarding outbreaks so widely distributed, and yet, comparing the season with previous ones, we have to deal with the fact of a notable increase over the autumn months of several previous years. It is hardly supposable that the people are retrograding in their general attention to sanitary matters. Indeed, the very numerous applications made for analysis of suspected well-waters from health officers and physicians in different sections make it evident that there is an increasing concern regarding the well as a source of outbreaks of typhoid. Thus, during the 8 months from June to December, 165 specimens of blood were examined for the typhoid reaction, 180 specimens of waters were examined bacteriologically and 21 samples chemically. These came from the following number of municipalities by months:

June.	July.	August.	September.	October.	November.	December.
7	6	15	16	28	11	12

The disease was present in 95 municipalities—either the same one or different ones—in the five successive months.

Remembering that the type of disease has been as a rule mild in recent years, and that with modern treatment there is not a mortality greater than ten per cent., it is plain that the number of cases has been considerable. Regarding the source, speaking of those towns with good public water, the disease has been found closely associated with those persons using the water from wells still in use, commonly in those parts of a town not yet reached by the water mains. Regarding the source in rural districts as primarily the same, not excluding of course milk contaminated through the water, and, some cases probably through aerial infection and pollution of food through flies carrying the germs, we have again to ask ourselves what was there in the temperature and humidity of the latter half of 1900 which aided the propagation of the germs of the disease in well water.

The table in Part II taken from the meteorological data for Toronto, which may be taken not as a perfect but partial index of those for the several other parts of the Province is to some extent explanatory. (Report for 4th Quarter.)

It will be noted that in the matter of temperature August had just 2 degrees higher than the average for the two previous years; September again 3 degrees higher than the averages of the two years and 5 degrees higher than that in 1899; October was over 5 degrees higher than the average of the years, while November was practically the same as the average of the two previous years.

Turning to the rainfall we have a condition much more difficult to guage in its actual influence, since the influence of rainfall on ground waters, except where the water bearing stratum is near the surface and beneath a sand and gravel upper soil, is not immediate and decided. The influence of heavy rainfall over large areas is not seen on deep ground waters for months, so slow is the movement of ground waters. Hence in spite of the fact that June, July and August in 1900 had compared with the average of 1898 and 1899, 2.4 to 1.2 inches ; 2.7 to 0.8 inches, and 2.7 to 0.6 inches, yet the farmers in some parts of the Province experienced more trouble in the autumn of 1900 in obtaining sufficient well water for their stock than in either of the two previous summers. This is in fact due to small rainfall in the two months of April and May, but especially of May, in both of which the rainfall may be assumed to have passed to the extent at least of 50 per cent. into the soil, the frosts of winter having passed out in March. Thus the rainfall of the two months in 1900 was 1.3 inches compared with 2.5 in 1899, and 1 9 in 1898 ; but in May alone the rainfall in 1900 was but 0.99 inches, compared with an average for the two years previous of 2 7 inches.

What seems then to have occurred was that with an unusually low annual rainfall in 1899 (28 97 inches,) and a very low potential rainfall in the first half of 1900—since the high snowfall of February would largely be lost by flowing off the frozen ground—the ground water of the wells was unusually low, and as the law of gravity causes the water area surrounding a well to draw towards the point where the level tends to be lowered by use, hence all sources of organic contamination within their range would tend to become tributary to the well, e.g. barn yards, privies and soakage from door yards. But more than this the waters of a well being low, the temperature of the upper air will cause a low water to grow warm sooner than if the bulk be greater.

CHAPTER II.

VARIATIONS IN THE TYPES OF SMALLPOX AND VACCINIA.

The persistence of the epidemic of smallpox in the United States during the past two years, and its present epidemic appearance in the lumbering camps of Northern Ontario would seem to again make necessary a reference to smallpox and incidentally to vaccination, which is invarlably associated with outbreaks of the disease. Reference has been made in the literature of smallpox to the notable variations in the type of smallpox ; and the past year as already noted has made this fact once more prominent. Similarly with this the experience of public vaccinators with various vaccines in the market has made equally evident the fact that the vaccinia produced by the use of different vaccines, varies equally in type with smallpox. Various theories have been put forward to account for these variations in type in the two diseases, and without presuming to speak as a biologist, it seems desirable that some remarks from the standpoint of the executive health officer should be made. As has been almost universally observed, the present outbreak of smallpox in the United States and Canada appeared in 1898 about the time of the Spanish-American war and is assumed to have been introduced from Cuba or from the Phillipines or both. It is sufficient to know that smallpox of a remarkably mild type was introduced and has remained in all centres with but one or two exceptions, of the same mild type from the Gulf of Mexico to the 51st parallel in northern Ontario, and equally mild last summer as far as the Yukon and within the Arctic circle. Four known exceptions to this mildness of type are known to have appeared, viz.: in an outbreak from an unknown source in Eastern Ontario in January, 1899, the outbreak in New Orleans in the winter of 1899-1900, in an outbreak in Winnipeg and northern Ontario in April 1900, through a traveller from Australia via Japan, and that of January and February 1901, in New York. Others may have occurred ; but these are sufficient to illustrate the existence side by side in the same population of a type of unprecedented mildness, and of a type of normal and that from Japan of even abnormal virulence. What is likewise remarkable is that the mild type has persisted in one centre after another, and that the severe type in several successive passages has similarly maintained its virulence of type.

As an explanation of the mildness of the type in the more widespread outbreak, it has been suggested in different quarters that it is due to the fact of a partial immunity having been established in a people vaccinated during several past generations. That the explanation seems wholly contrary to the facts is at once seen in the fact that wherever smallpox of a virulent type is known to have been introduced, as in the Winnipeg case, its fatality is as great as in former outbreaks, and in a community more than usually likely to be immunized if their British descent from a people compulsorily vaccinated for half a century and more had any influence. On the other side it cannot be said that in a single State of the Union has compulsory vaccination in the British or German sense ever been systematically practised. What is further valuable is that the several other severe types noted have been where the disease of a severe type is likely to have been imported by trans-oceanic commerce, as from Glasgow or Naples to New York. Moreover, the present outbreak in Glasgow is of normal severity—a death-rate some weeks of 33 per cent being reported.

I think therefore that it may fairly be said that there is no evidence whatever to show that the physical systems of the people of these two countries show any increased ability through hereditary immunity due to vaccination to withstand the attack of a virulent type of the disease. It may incidentally, however, be observed that it does not follow that our habits of life may not be such as to tend toward a lessening of the severity of the type in its successive passages through a series of individuals. I am inclined to think that there is some room for believing that the fact of our peoples as a whole being to a remarkable extent, meat-eaters and abundantly fed plays a role in developing an increased resistance to the several diseases—scarlet fever, diphtheria, smallpox, measles and whooping cough. The fact of these diseases being usually mild amongst the inhabitants of southern countries who are more largely vegetarians would not in any way disprove the fact, since the climatic conditions making outdoor life there general, not only make their dissemination less but actually seem to tend to destroy in hot weather the germs of these diseases.

It may seem idle with such unsatisfactory answers to our questionings meeting us on every hand to attempt any explanation of this mildness; and yet there do appear to be some facts which tend to point toward partial explanations of the phenomena we have noted. One of the places where we can actually note results, if not explain their causes, is in the cultivation of vaccines. In the articles of Dr. M. Copeman of the Animal Vaccine Establishment of the Local Government Board of Great Britain is set forth the history of much experimental work in the preparation of vaccines. He has pointed out that smallpox virus can by a series of passages through calves be brought to a point where it produces no more serious results than ordinary lymph. Every day observation of the effects of the various bovine vaccines in our market makes it equally evident that, whatever measures are taken in the preparation, the lymphs of several reputable firms are productive of results varying *in toto cœlo*. Not only this, but experience time and again shows that the lymph produced by some firms has gradually passed on the one side from a lymph producing a vaccination of normal character to one of abnormal severity; while on the other it has degenerated until it produces a delayed eruption of abnormal appearance and which is found to be wholly non-protective against an inoculation with a more active lymph immediately after and, as known in some instances, against inoculation with even the present mild type of smallpox. It must be remembered that all these variations take place in bovines, uninfluenced we know by hereditary immunity from ancestral vaccination, and from any notable change in the type of food—certainly not by the use of animal foods. Wherein then lie these influences producing, whether in smallpox or in vaccines, results so notably divergent? There is in both one fact that all will recognize and which to me seems to play an important role in the production of the varying phenomena, viz the presence or rather the varying virulence of the other germs present in the pustule whether of smallpox or vaccinia. We know that vaccine lymph, especially untreated lymph, gradually becomes turbid, owing, we are told, largely to aerobes present in the lymph before storing and that lymph at first faintly alkaline tends to become distinctly acid after a short time. With the numerous germs which are present in air, it must however be supposed that the air of different stables, just as of different cheese-factories or creameries, becomes through accident impregnated with some one or more specific form of germ and that if this microbe has a capacity for developing in the maturing pock

it will almost invariably find its way there. Under ordinary conditions, however, common experience would teach us that the various pus-forming germs, as staphylococci, and occasionally streptococci, are almost invariably met with in this as in other pustules. In fact, the Report of the Vaccine Establishment of the Local Government Board of England in 1899 shows that every specimen of untreated lymph had one or more species of staphylococci present in large numbers before being treated with glycerine.

Now, one of the most remarkable properties of these staphylococci is their great capacity for rapidly developing or decreasing their virulence. The presence constantly or frequently of one or both of these in the air passages, and their seeming harmlessness, until, under some change in the blood, such as the development of an acidity from excess of uric acid, perhaps through cold, and retained systemic secretions when we may see within twenty-four hours an acute tonsilitis and post rhinitis with free exudation and development of membrane, constitute perhaps the most remarkable instance of a development of virulence, for we know that for a short time these anginas are notably infectious and that vulnerable persons exposed are most readily attacked.

Assuming in the case of vaccinated heifers, that two animals are vaccinated with the same lymph, just as two children may be, we have the factor of a varying degree of contamination of the vesicles to deal with in the same stable, or still worse in different stables unequally managed, and besides this the individual factor of the varying constitutions of the two animals. The difference between the vaccinated arm of a fleshy or lymphatic person and of one of a firm-tissued, sanguine temperament, sufficiently illustrates the personal factor.

It seems by analogy an almost necessary consequence that with pus germs present in an inoculation which has caused a certain destruction of tissue the extent to which the phenomena of either vaccination or smallpox will develop in a vesicle will depend upon the assistance which the pus germ gives to the vaccine microbe through symbiosis Thus Stanley Kent, describing the pathology of the vaccine vesicle, finds, in a few hours after inoculation considerable inflammatory disturbance, with fibrinous exudation occluding the vaccination wound. In the plug are numerous micrococci with abundant leucocytes in the surrounding tissues. The blood vessels contain numerous organisms of the disease. The neighbouring tissues show great cell proliferation, with many broken down cells near the wound. These increasing products of cells fill the loculi of the vesicles along with lymph. The resistance of the individual to invasion will notably vary in different cases, since none who have seen a series of patients exposed directly to the same source of smallpox can doubt, and apparently we can not doubt, but that in the least resistant persons the germs of smallpox have been assisted by the staphylococcus and equally that the staphylococcus has been given an opportunity to develop virulence through the smallpox.

By this process of reasoning we seem to be able to find an explanation of how in the modern scientific methods of preparation of vaccine the degree to which asepticism is carried will be an important factor in the development of greater or less virulence in a lymph, and how a re-vaccination with the slightly altered lymph thus produced will similarly in a second passage depart yet another step toward or from the assumed normal virulence. Applying the argument to the mild form of smallpox which has prevailed, we have witnessed apparently the same phenomenon occurring through a series of cases, exposed to the same cause. Many cases have begun with serious prodromata, and have exhibited the various stages of a rash almost confluent with a free pustulation, an infiltration of tissue and indeed all the indications of a virulent case. But just at the moment when deep erosion of the pocks seems certain, apparently the antitoxin developed in the blood of the patient has become sufficient to antidote the degree of virulence of the smallpox virus, and the ulcers of the surface dry up as readily almost as in a scratch on a healthy person. On the other hand, if in a scrofulous patient or one having a tendency to glandular inflammations, or in a person of low vitality, the virus be of sufficient virulence to overcome the natural resistance of the cells the infiltration of tissue may be intense, and deep erosion of the ulcers may go on and pyaemia and even death occur from a germ of no great initial virulence.

In an article on vaccinia by Prof. T. D. Ackland, one of the officers of the English Royal Commission, 1889 1896, some considerations are set forth regarding the sequelæ of vaccinia. Referring to the dangers of vaccinating very young children, he states that :—

(*a*) A considerable number of children born in workhouses, and other charities are often feeble and sometimes diseased; (*b*) A mother may leave such an institution and return to conditions of life harmful to her child; (*c*) If vaccination is during an epidemic of smallpox performed on such infants, the disease produced may be beyond their strength to resist its effects.

Previous to vaccination children may be suffering from disease such as convulsions, diarrhœa, vomiting, scrofulous glands, eczema, etc., and from the effects of unsuitable food. Dangers to the vaccinated child may also arise from exposure in houses to other influences, as sloughing wounds, ophthalmia, or to insanitary surroundings. No open wound, Ackland states, can be expected under such circumstances to pursue a normal course and it is known that persons responsible for the care of such children very frequently neglect the most ordinary precautions. He further points to the fact that in the cases of unfortunate sequelæ, which the Commission was called upon to investigate, not a single case among the well to-do was brought before the attention of the special officers. Dr. Ackland thereafter indicates the necessity for the usual precautions against inducing inflammation as by rest of the vaccinated arm, and by protecting the vesicle against injury and filth infection.

We thus have briefly illustrated factors which are in practice seen to have a definite influence in creating modifications of virulence in cases of vaccinia, which are equally applicable apparently in developing modifications of virulence in the production of bovine vaccines and in the types of smallpox. To say for instance that because the sturdy axemen of the lumber woods, fed largely on animal foods, and who through severe exercise in the forests develop a great natural resistance to disease, live in badly ventilated and insanitary shanties, and that therefore they ought to develop a severe type of disease is no more unreasonable than to say that the "roost-abouts" of the quays of New Orleans in winter, half-fed and half clothed, though living in fresh air should not develop a virulence of the disease. We know as a fact that the shanty-men have not developed a virulent disease as a rule, and that many of the negroes of the levees have, as shown by the mortality in two successive winters, but which lessened again with the warm weather.

Remembering the incredible number of generations of the individual microbe developed during any zymotic disease, and their modifications with changing environment as in "cultures," it seems as irrational not to expect such changes to take place in the germ of smallpox as in that of diphtheria, bacillus coli or streptococci. What we must look for is an increased attention to the natural history of this microscopic flora and a more extended and careful study of the changes of micro organisms with environment, if we are to be placed in a position to adequately deal with modifications of disease as they appear "*in corpore.*" While admitting the difficulties which are in practice to be found in controlling patients or groups of patients as in the crowded lumber-camps or the slums of great cities, yet the executive officer and the physician who are called upon to deal with the clinical symptoms, as they present themselves, in such a manner as to protect their own reputations and the public health have a right to demand of the authorities, who by legislation make compulsory laws and of the great public who insist on protection that every safe-guard shall be supplied which is possible through science in the investigation of the origin of disease and in the preparation of vaccines and antitoxines; and that every facility which by legal enactment is possible, shall be given whereby after inoculation with a vaccine or the quarantine of a smallpox patient, the treatment of the disease shall be made as safe as may be possible, with the end to prevent untoward accidents.

CHAPTER III.

THE SOCIAL PHASE OF THE TUBERCULOSIS PROBLEM.

The fact of the enormous mortality caused by tuberculosis in its varied manifestations has been patent to physicians, philanthropists and the general public for very many years; but especially has it been pressed upon their attention since the modern scientific theory of its specific causation, and therefore of its preventable character, has passed into a popular belief. The history of all movements of reform has been one of conviction on the part of a few, who, filled with an earnest purpose, have pressed their beliefs often upon an unwilling or indifferent public, and often indeed against interests and prejudices based upon selfishness and ignorance; and it is apparent that when the complex nature of the individual, social, industrial, and moral causes, which affect the development of tuberculosis, are understood it will be apparent that the movement now typified in National and International Congresses for the Prevention of Tuberculosis will be effective in results in the degree that their decisions are crystallized into practical legislation and that general public opinion of civilized countries becomes so positive that reforms in personal habits, in sanitary matters and in industrial and commercial methods shall follow as a natural consequence.

1. *The Personal Factor in Tuberculosis.* From one standpoint this subject is so purely one of curative Medicine that it would seem scarcely to be a subject capable of being here discussed at length; but when viewed more exactly it will be found that of all the factors of this problem there is none so important as this, viewed from the public health standpoint. And why? Preceding the medical is always the biological or physiological aspect under which man must be studied. He is essentially a physical organism or unit, subject to and governed by all those laws of environment, under which any organism whether plant or animal must be studied; and if in addition man must be studied as an intellectual being endowed with volition and freedom of action, it is only still more evident that we have superadded to the first a set of influences and conditions, making the study of the individual yet more difficult. When discussing the problem of preventing tuberculosis, viewed, as the student of man's natural evolution must view him, we must go back to those historic and even pre-historic ages and think of man the animal being slowly evolved from his primitive intellectual condition, as a denizen of the woods, caves and plains, and living a simple free life in the open air, up by slow stages to the man of our earliest Babylonan and Egyptian civilization, when the moral man appears at the dawn of history crowned with positive religious beliefs, and living in a society, still simple in many respects, yet with the most fixed rules regarding his social duties and relations as an individual member of the body politic. From king to helot each found his place in the social fabric, and therein fulfilled his duties, governed by a firm belief in his destiny as fixed by an unalterable Fate. Down through the ages we have seen society during the early centuries even of the Christian era with, not only its practice, but its belief in slavery, as fixed by the degrees of the Almighty, and in feudal times of the serf being gradually emancipated, but meanwhile performing duties to his feudal superior and obtaining certain rights gradually accorded him by his liege lord. Yet it must be confessed that except in isolated instances, there never has existed until the French revolution and the present century any generally recognized inborn and social equality of all the members of society in any country, and a practical recognition of the physical, mental and moral worth of the individual in the different grades of society. So late, indeed, as 1833, we find the English House of Lords, amending an Educational Reform Bill, on the ground that it would lead insidiously to a system of national education amongst the lower classes, and be dangerous to society; while the utterance is even now not unheard, that we have for the many too much education.

Reviewing these remarks in their bearing upon the problem before us it becomes evident that in ancient civilizations it was possible under a benevolent tyranny to deal with the lower classes as to-day we would deal with any animal, which had for its owner a special value; later under the simple rule of love of the early christians, a similar care was exercised over the individual in keeping with knowledge and opportunities; later,

again the serf may have received adequate care from his good fendal superior, but not until to-day with a democracy, so powertul in the exercise of its God-given rights as to become at times a tyranny through this very license, which its liberties have given it, do we see the individual choosing of his own free-will a pathway, at times, narrow and hedged by natural laws, regnlating his daily physical and moral life, while at others, seemingly lost upon a plain of shifting sands, where some pleasing fancy leads the wayfarer to some seeming oasis, only to be found a mirage, or at most a resting place where the waters are scant and bitter to the taste. If such indicate at all the position of the individual in society it is plain that as the condition underlying all progress must be the growing personal conviction in the individual of his moral responsibility for his own wellbeing, a growing comprehension of how completely his life is subject to unalterable laws, whether physical, intellectual or moral, and of an ever increasing knowledge of what these severally exact laws are, accompanied by a willingness to conform thereto.

2. *The Social Factor in Tuberculosis.* As the individual becomes a unit in the modern social fabric, his interests as well as his duties necessarily take on a larger and more impersonal character for which he has we assume been fitted by the evolution of society. The character of his duties and responsibilities must further be in keeping with that of the society in which he finds himself, viewed from the intellectual and moral standpoint. It is readily possible in any civilized country to find illustrations of the differences which necessarily attach to each Taking the simple frontier settlement with its struggle against the physical obstacles of the forest, and we find the individual homestead, distant from others, having few needs and fewer opportunities for the exercise of social duties, yet commonly rich in those domestic virtues of self-help amongst its members and of unostentatious hospitality to the stranger. Turning to the society of a large city, and we find the individual almost lost in the complex interests and duties which his environment forces upon him. Here we find, as one would expect, the development of at once the extremest egoism and the highest altruism Forced to act and live in such a community, specialized work becomes a necessity and the individual may, and indeed often is forced to, exert his animal instincts in the fierce struggle of existence till all other faculties seem atrophied from lack of use; yet here too the intense exercise of many faculties does produce in others the noblest examples of practical philanthropy, where man is seeking ever to uplift his fellowman. In art, in science, in the uplifting of the fallen, in the helping of the unfortunate, in the care for the children and the aged, and in the co-operation of the units as a body corporate in all which makes for municipal progress and religious activity, we see the type developed, which ultimately is to make of society an organism, as instinct with life and harmonized energy, as are those very physical agencies, which year by year are through the discoveries of science being made his willing servants. Applying these illustrations to the problem before us and it becomes apparent, in a disease historically associated with the density of population in cities, with the insanitary conditions especially incident to the accumulations of organic matters due to the existence of life on close areas, to the ill ventilated abodes of the poor, and to the factories wherein the millions of city dwellers spend their existence, that the future immunity of the people from it must depend upon the degree to which the plane of existence of society as a whole becomes such as to make common endeavor against it a matter of every day concern.

3. *The Industrial Factors of the Problem.* It will be apparent to all who have studied the industrial development of the past century, that it has had an influence on society in a hundred ways which under simpler conditions would have been impossible. Not only has it reversed the relative positions of rural and urban populations, but it has further given to the latter many special attributes making even different cities engaged especially in some particular industry such as cotton making, iron making, manufacture of chemicals and so on, each to have its special mortality. It suffices, however, to note that industrial and commercial evolution have created new social problems, some advantageous, some adverse to the public health and especially to that disease from whose domination we seek deliverance. A study of the struggles of civic and health reform during the last century, notably in England, gives an accurate idea of how slowly the public, whether employer or employed, came to realize that industrial success did not mean essentially a slavery of the work people. Every step towards lessening the evils of

child labor and of reducing the hours of labor was fought in Parliament and in municipal affairs, and not until the latter half of the century had the humanitarian advocates gained such an ascendency, that the legislation was passed, embodied in the Factory Acts and Labor Laws and in various Acts such as the Public Health Act, the Alkalies Act, the Rivers Pollution Act, all tending to improve the social well-being of the people Coincident with such was the scientific and mechanical progress and invention which made the improvement in the social conditions of the people possible. Chemistry, applied to the study of house ventilation, to the problem of life in mines, to the purification of streams, to the collection and removal of the poisonous gases in various manufactures, was perhaps the first and greatest agency in the betterment of the conditions under which men worked and lived ; and following it closely were those biological studies, which have so widened the mental horizon, giving to their devoted students a position and influence amongst the leaders of the world's thought, which before had been accorded only to the theologian and philosopher. In no other way would it seem could society at large have been so rapidly placed upon the same plane of an equality, begotten of the power which knowledge gives, and which makes with freedom of opportunity every citizen a power, in proportion as he is able to put his knowledge to practical account in the world of industry. That, however, this knowledge giving man power over the forces of nature has for a moment a seeming disadvantage from the social standpoint is seen in the possibilities which are given to capital in so utilizing mechanical, chemical, electrical and other inventions in our giant industries as would seem to make of even the greatest discoverer but a small portion of the enormous machine. On the other hand it has placed the power in the hand of the individual, who deems himself the sport of some untoward fate, to avenge himself through these very agencies, against those in high places and even against society at large. Amidst it all, however, in the ceaseless ebb and flow of passion and of desire, the overcoming virtues of charity and mercy in human life are seen, and the essential fact of the brotherhood of man seems from the very necessity of life to be slowly forcing itself to the surface.

In all this we may find some grains of comfort when we dream of the time when consumption will cease to be the scourge of the poor, the destroyer of the fairest blossoms in the homes of the rich, and the constant reminder that in death all men are alike equal. It may perhaps seem idle to even imagine such a good time coming, when we see urban life becoming more intense, more complex, and its demands for money as the source of power, greater day by day ; but it must appear to many an employer daily more evident, as a mere financial investment, that the health of employees becomes an important part of any successful business, while the constant influence of public opinion, in the abatement of preventable evils, does gradually produce their remedy even though it be set down to the credit of intelligent selfishness. With a community all discussing the ever-varying subjects presented in the daily press, such for instance as carefully collected statistics regarding some special social condition as affecting the death rate, it becomes only necessary that some practical scheme for its amelioration be so pressed upon the public that they become gradually convinced of its utility, when the reform is brought about and the remedy supplied.

This has been seen,especially in dealing with the problem of sanatoria for the cure or amelioration of cases of tuberculosis. In Germany, where the social problem of aiding the working classes has been advanced farther than anywhere else, sanatoria for the treatment of some 25,000 people annually have been erected within the last five years,and will be followed in other countries so soon as their practical utility has fully taken possession of the public mind. It may be urged that the reform will rather depend upon the moral status of a people, or in other words rather depend upon the altruism, which teaches the common brotherhood of man ; but it must be remembered that the permanence of the action based upon any teaching will depend essentially upon the belief that such is demanded in the interests of man's material and social condition. Thus it would seem evident that without a knowledge of the cause of tuberculosis, of the ways by which the germ is disseminated in the human body, of the conditions which form or retard its propagation there, and of the means which modern science teaches tends to promote its cure, we must inevitably remain helpless before its ravages, and bow resignedly before it "as a visitation of Providence" or the punishment of some demonic agent.

What is apparent, therefore, is that our special duty and that of all who see in the ravages of tuberculosis not only an individual and family misfortune but a social and economic evil, is to press forward the work of educating public opinion through every available agency, not only as to the individual, social and industrial influences promoting the dissemination of tuberculosis, but also of the scientific, municipal and social measures possible for its prevention and treatment. The outlook cannot be discouraging if we base our hopes upon the gradual education of the people to a sense of their own interest and duty in the matter. We recognize how sensitive the people already are in the matter of diphtheria and scarlatina; so in this they must learn to appreciate how gradual and often unobserved are the influences making the individual a candidate for tuberculosis. Perhaps too we can teach the claims upon them of the less fortunate members of society on whom the stress of life presses, so that, even if they would, they cannot at all cast off the evils of their environment. If it could be made plain to all that happiness as well as safety lies not in a life self-centred, but in becoming a source of benefit to others the problem would be solved.

But the processes by which the ignorance and inaction of the general public become not only informed of, but believers in, the many facts, which to the scientific mind have become self-evident truths are so slow that there yet lingers, paralyzing individual and public action, the half-hidden and perhaps unspoken belief in a Fate, not yet relegated to old mythologies, making inevitable *what is to be*. But none who realizes how potent the intellect of man has become, and will yet more become, in moulding the forces of nature to his ends, can see in such other than a practical illustration of the goodness of Providence.

"Strive, not rest,
Burn and not smoulder, win by worth"

is the philosophy which Browning teaches us as holding the true meaning of life, and it is apparent that social progress depends upon the insistent belief in such, if the ideals which we should strive for are to be attained. It is the new philosophy which brings our physical and social ills within the realm of much which hitherto has seemed to belong peculiarly to the moral and religious sphere; but as we are daily learning that the physical, intellectual and moral is a unit from which no one factor can be divorced without the individual suffering, so shall we gradually have to realize that in such a disease as tuberculosis, which has in a peculiar degree made sport of the lives of men in every age and country, marking especially the toiling millions for its victims, its lessening prevalence, and decreasing mortality will become the most delicate index of social-well-being, and of the disappearance of the evils due to ignorance, poverty and vice. Thus engaging the attention equally of the physician, clergyman and philanthropist, all will hail the dawn of the morning when this disease, following physical degeneration from any cause, whether moral, industrial or hereditary, shall have been overcome, as have been so many others within the past century through the advances of science, that they then will sing pæans of victory for blessings greater even than the triumphs of peace over war.

"Greet the unseen with a cheer!
Bid him forward, breast and back as either should be,
"Strive and thrive!" Cry, "Speed—fight on, far ever there as here."

Respectfully submitted,
PETER H. BRYCE,
Secretary.

REPORT OF THE BACTERIOLOGIST OF THE PROVINCIAL BOARD OF HEALTH LABORATORY.

To the Provincial Board of Health :

GENTLEMEN,—I have the honor to submit to you the following report of the work done from January 1st, 1900, to December 31st, 1900.*

The work of the laboratory consists of routine examinations for the diagnosis of tuberculosis, typhoid fever, malaria and influenza, rabies, anthrax, actinomycosis, glanders, tuberculosis in animals, for the diagnosis and release in diphtheria, and for the bacteriological and chemical examination of suspected waters.

The specimens are examined free for the purpose of promoting the work of the Local Boards of Health, and to this end it is desirable that as far as possible they be sent through such channels. Often this would cause delay and so vitiate the examinations and their usefulness. To avoid this specimens in most cases should come directly from the physicians and veterinarians. The reports thereon are sent by mail, or when requested, by telegram, in the last case at the receiver's cost. In the case of reports on diphtheria diagnosis telegrams are always sent unless otherwise requested.

Samples may be sent by mail or express and must be prepaid.

Samples sent by post must comply with the regulations of the Post Office Department. These are that diseased tissue be carefully enclosed in specially constructed double tin cases, closely packed with absorbent matter, and with closely fitting screw caps. They then, when addressed to the Provincial Boards of Health or to Public Laboratories, pass at fifth-class rate. An endeavor is being made by the Committee of the American Public Health Association to have such matter pass at letter rate in Mexico, United States and Canada, also to have a modification of the packing regulations. At the present time senders labor under considerable unnecessary difficulty.

Again, it is desirable that senders observe certain rules in forwarding samples :—

1. Always to address them to the Laboratory of the Provincial Board of Health, Toronto.

2. Always to enclose their own names and addresses. Letters or cards and specimens often become separated in transit. We have several reports here now on specimens awaiting an address.

3. In the case of sputa of suspected tuberculosis, swabs for the diagnosis of diphtheria and smears of blood for the Widal reaction for typhoid fever diagnosis, cards must be filled out. These are for statistical purposes and should be fully and carefully made out. These cards have been sent to all the physicians in the Province. More are sent on request. It has been decided that the examination cannot be made free of charge if this regulation is not complied with, and if cases are not reported to Local Boards subsequently for their benefit.

4. In the case of samples of suspected tuberculous sputum, the morning sputum (not more than half an ounce) must be put in a clean, wide mouthed bottle, provided with a well-fitting cork. When a positive result is obtained no further examination will be made free of charge. When a negative result is obtained samples will be examined until the physician is satisfied that tuberculosis is absent.

5. Samples of suspected diphtheria exudate, or specimens from convalescent cases to determine the absence of the diphtheria bacillus must be taken on sterile swabs, and for the release from quarantine it is advised that swabs be taken from the nose as well as the throat. These swabs may easily be made by wrapping a little non absorbent cotton (jeweler's cotton best) about the end of a stick or a piece of wire, preferably copper or aluminum wire. The cotton end need not be more than one-half inch in length nor more than a sixth of an inch thick. The swab should be sterilized along with its container before smearing. This can be easily done in any ordinary cook stove oven by dry heat of an hour's exposure. The fingers of a general practitioner as well as the absorbent cotton might independently of the patient carry the bacilli.

* This report includes the work done by Dr. J. J. Mackenzie up to the time of his resignation on July 23rd, as well as that done by me since that time.

6. Samples of suspected typhoid blood may be sent by letter, by allowing a few drops of blood to dry on a piece of clean, glazed writing paper, preferably on a small piece of clean glass.

7. In the case of suspected rabies in dogs it is necessary that a portion of the spinal cord and medulla of the dog or animal be forwarded with as little delay as possible, taken from the animal immediately after its death under all antiseptic precautions, and this enclosed in a sterilized bottle and the bottle packed in ice and sawdust.

8 In the case of suspected actinomycosis a small portion of the diseased tissue may be placed in a sterile bottle and packed in ice.

9. In the case of other contagious diseases of animals it is necessary that small portions of the spleen and liver or intestine and any portion showing lesions be removed with antiseptic precautions, enclosed in *separate* sterilized bottles and the bottles packed in ice and sawdust.

10. Malarial blood for examination should be spread thinly on a cover glass or slide with as little handling as possible and allowed to dry in the air before packing in a tin box

11. In the case of influenza, swabs may be taken in the same way as the swabs in diphtheria are taken and with the same precautions

Water Samples.—In sending specimens of water for chemical examination the following rules should be observed :

a Use glass stoppered half gallon glass bottles or Winchester quarts.

b. Cleanse carefully, stopper as well, by washing thoroughly with a solution containing 25 parts of concentrated sulphuric acid in 75 parts of a saturated solution of bichromate of potash in water and rinse repeatedly with the water from which the sample is to be taken.

c. Express in uncovered boxes the bottles well packed in sawdust, necks exposed. In winter the samples should be protected against frost.

d. Do not use any sealing wax. Label the bottles always.

e. Samples should be taken below the surface, the stopper being taken out below the surface and replaced after filling, in the same way.

f. Samples should be shipped by express with as little delay as possible so that as little time as possible intervene between the collection and analysis of sample.

g. When a biological examination is required, specially sterilized bottles will be sent at request from the laboratory of the Board.

h. A certificate form, which will be forwarded on application, must be filled out and sent to the Board at the time of sending sample.

Physicians will kindly remember that the examination of urine, of tumors and other neoplasms is not a part of pubic health work coming under the Public Health Act, and that, therefore, should they send such to the Provincial Laboratory the specimens will be turned over to some pathologist for examination.

No research work of any amount has been attempted as the work of the laboratory has been increasing constantly. A continually larger number of physicians are taking advantage of its privileges, especially has this increase been marked in the direction of water examinations.

The laboratory is open every day from 9 a.m. to 5 p.m., except on Saturdays and holidays, when it is open until 1 p.m.

The first part of the report deals with the methods used in the laboratory. The second part with the results obtained, including tables illustrating the points discussed.

Three mails are received daily, 9 a.m., 12 a.m. and 4 p.m.

Diphtheria Diagnosis.—No outfits are sent to practitioners for the sending in of swabs. Ontario is a large Province and in the outlying districts medical officers are widely scattered. Swabs are accordingly sent in after the device of each sender. It is very rarely that a *sterile* swab is received. On the whole, and so far as diphtheria is concerned, the results have been satisfactory. Some of the specimens not being packed according to post office regulations have been detained in the dead letter department, but have even after two or three weeks shown good growth We have not made it a habit to make a direct swab examination on receipt of specimen, preferring rather to incubate after smearing a blood serum medium. The cultures are put in the incubator as soon as possible after receipt. The

examination is made the first thing on the following morning and reports sent; the cases for diagnosis by telegram, if for release, unless otherwise requested, by mail, cards are sent at the same time. We trust to the morphology entirely for recognition of the bacillus, keeping in mind always that those organisms found are not at all times necessarily virulent to the patient immediately concerned. The ideal method would be to test the virulence, but this is a process requiring considerable time and would be entirely out of the question for practical everyday work. Organisms non-virulent in one subject may become very virulent to the next. The purposes of public health are secured by the finding of the bacillus or not. When the result is positive, that is, shows the bacillus of diphtheria, the patient is isolated. Many municipalities now require a negative result or absence of the bacillus before releasing from quarantine. Where this rule has been in force it has proved very satisfactory in limiting the prevalence of diphtheria. In this Province one negative has been considered sufficient for release. There is a growing feeling now that two consecutive negative cultures should be required. Dr. H. W. Hill quotes statistics showing that after one negative 30 per cent. of the total positive persons go out of isolation while the bacilli are still present. Often the bacilli are hidden away to be extruded later on with the normal secretions. A normal looking throat often harbors the bacilli of diphtheria. After two negative cultures taken on two consecutive days it is found that only from 1 per cent. to 3 per cent. are released still infective.

Typhoid Fever.—Examinations of blood by the Widal reaction are made for the diagnosis of typhoid fever. The physicians send a drop or two of blood dried on glazed paper. For the examination a sufficient quantity of sterilized water to make a decided amber color is placed on the blood. This corresponds as closely as practicable under the circumstances to a dilution of one in ten. A loopful of this mixed with a loopful of a 24 hours growth of typhoid bacilli from an agar growth of one month old gives a dilution of one in twenty, the dilution ordinarily admitted to be the best under practical laboratory conditions. A hanging drop is then made, an hour being allowed for the completion of the reaction. A typical reaction is where there is a decided clumping of the bacilli, with at the same time a stoppage of motility. Sometimes clumping, sometimes stoppage of motility, is observed. In this case though suspicious the reaction is not looked on as having taken place and a new sample is requested If neither takes place then there is no reaction. A positive result is conclusive evidence of typhoid to the extent of 95 per cent. All typhoid cases do not show the reaction; fully 90 per cent. do though at one time or another during the course of the disease. To insure a continued run of one month old cultures a new agar smear is made each night and kept for the next month's work. The reaction of both the broth and the agar used has to this time been + 15 (1 5 per cent. acid). This method has been found quite efficient for diagnostic purposes. Harris advises + 5 for the broth, as making the reactive power of the bacilli more sensitive. As yet I have not had sufficient experience with the reaction to test its value.

Tuberculosis.—Under this heading sputum from cases suffering from respiratory tuberculosis, discharge from lesions suspected of being tubercular, urine from urinary cases, tissues from animals suspected of having died from this disease, where the meat is exposed for sale as food, are sent to the laboratory. The staining method is the one chiefly used in making a diagnosis. The staining is done on glass slides. In the case of sputum the habit is to take four loopfuls from four of the most suspicious looking portions of the specimen, the same in the case of discharge from other lesions. In the case of urine a preparatory centrifuging is done before taking the four loopfuls. This is stained by the ordinary carbol-fuchsin stain and decolorized by a solution containing 3 parts of HCl in 97 parts of 95 per cent. alcohol, counterstaining with methylene blue If none appear another sample is requested. In the case of discharge from lesions or urine in which the bacilli are not found; it is often difficult to find them by staining in these cases, if other pathogenic organisms are not present in too large numbers the guinea pig is had resort to. In the case of tissues microscopic sections are made by the freezing method and search is made for the lesions so nearly characteristic of tuberculosis. The meat is condemned if the bacilli or the lesions be found.

Malaria.—For the diagnosis of this disease staining of smears of blood on cover-glasses, Futcher's modified method is used as follows:

Fixation in $\frac{1}{4}$-$\frac{1}{2}$ of 1 per cent. formalin in 90 per cent. alcohol, staining in carbol-thionin (50 per cent of alcoholic solthionin 20cc, 2 per cent. carbolic acid sol in water 100cc) for 10 to 15 minutes, wash in water, dry and mount. It has given us good results.

Glanders.—None has been met with during the year. It is rare in this Province. The method employed for its diagnosis is that recommended by Hill, (Twenty-eighth annual report, Boston city,) viz: "Take a swab on absorbent cotton from the suspected mucous membrane of the horse, so as to get as much as possible of the suspected material. This on receipt is shaken thoroughly in 5cc of sterile water." The resulting suspension is injected into the peritoneal cavity of a male guinea pig, and a positive or a negative diagnosis is usually based upon the development or non-development of scrotal inflammation in from two to seven days, after further examination of the tissues in every case for the isolation of the organism. The guinea-pigs frequently die from sepsis before the typical lesions have had time to develop, requiring a repetition of the inoculation.

Rabies—No specimens from suspected rabies have reached the laboratory during this year. The method employed for the diagnosis of this disease is to make an emulsion of about a gramme of the spinal cord or brain of the suspected animal in 10 cc of sterilized water. This is filtered through cotton and afterwards paper and injected subdurally into the cranium of a rabbit. The dura is exposed by trephining a full grown rabbit at a point just posterior to a line joining the centres of the eyes. The diagnosis is made on the appearance of paralysis or convulsions after fourteen days, if other diseases can be excluded by the autopsy and cultures from the organs and blood. Two animals at least should be used, on account of accidents from contamination and other infections. In the meantime if the original specimens have arrived in a good state of preservation some of the basal or the dorsal root 'ganglia' are hardened and sectioned after Ravenal's method for the rabetic tubercles, which appear in place of the degenerated ganglion-nerve cells. Their presence makes at least good confirmatory evidence.

Influenza.—This is examined for both directly from the swab and secondarily by culture, using media smeared over with human or with pigeon blood.

Anthrax—The organs, preferably the spleen of the animals having died suspected of this disease, are taken out with all possible aseptic precautions. From these smears for staining are made. At the same time teased portions are placed subcutaneously into guinea pigs, and inoculations made on the various culture media. The diagnosis is made on the characteristic morphology and cultural peculiarities of the primary sowings, and in the recovery of these same organisms from the organs and blood of the experimental animal which usually dies in from 24 to 72 hours. Duplicates and controls are always made.

Actinomycosis.—The method here is,—first the direct examination of the softened centres or discharge from the suspected tissues for the "sulphur granules," second the microscopic after staining the fungus with methylene blue, and finally after hardening in alcohol to section and stain with either picro-carmine or Haematoxylin and then looking for the ray-fungus combined with an epithelicid formation in the tissues affected.

Water.—This is examined physically, chemically and biologically. Under the head of physical examination, turbidity is taken note of especially for the microscopic examination of the precipitates for inorganic substances, but especially for vegetable and animal tissues. The color is taken note of. The odor is looked for as to a possible indication of the source of pollution.

Chemical examination.—In this laboratory since the examinations are carried on chiefly for the discovery of organic pollution, free ammonia, albuminoid ammonia and nitrogen along with chlorine are chiefly, almost exclusively looked for. For the first three the colorimetric system of Nessler is used. The albumenoid material is reduced to free ammonia by treatment with an alkaline permanganate of potash solution. Nitrates and nitrites are reduced to free ammonia by electrolysis by the use of a copper-zinc couple. The nitrogen is then calculated back from the free ammonia obtained.

This examination of course makes no distinction between vegetable and animal pollution, simply shows organic contents and thus shows what kind of medium it might be for the growth of passing-by infective organisms. Allowing for the chlorine standard of the

locality, we lay some stress on the results of the chlorine test as a distinction between vegetable and animal pollution. It gives about as fair an indication as is possible at the present stage of our knowledge, of the presence especially of urine pollution of water. We make it in all specimens of water sent in for examination, using the silver nitrate-potassium chromate method of estimation. Lead and iron or other substances are only looked for when special indications call for such examinations.

In the biological examination of water the chief stress is put on the bacterial search. A count of the number present to the cc. in specimens suitably taken, packed in ice and not over 12 hours in transit, is made. For this purpose for the greater part of the five months I have been in charge, nutrient gelatine, following the recommendation of the Bacteriological section of the American Public Health Association, of a reaction of + 15 (1.5 per cent. acid) was used. For our waters I have found that gelatine, neutral to phenophthalein has given the greater number to the cc. Our habit has been to use three days' growth at 20° C. We have considerable trouble with liquefiers. The rest of the examination is chiefly with the object of finding the colon bacillus. For this purpose Uffalmann's gelatine with lactose (2%) added is used grown at 20°C. The citric acid inhibits the growth of nearly every organism but the colon. On only two or three occasions have I found colonies of cocci Lenticular gas-bubbles without liquefaction is very suggestive. Purplish blue (reduction of methyl violet) colonies standing up like hob-nail on the surface of plates made with this medium are also suggestive. At the same time inoculation into tubes containing 5 cc. of nutrient broth + 15 reaction to which is added 6 8 drops of Parietti's sol. to check off other forms than colon is made. This for secondary inoculation, if this should be indicated by the above procedure and also the following viz.—the inoculation of Smith-tubes of litmus lactose broth and growth at 37°c. for Co_2 and hydrogen production with an approach to the proportion of $Co_2 : H_2 :: 1 : 2$ with the litmus red. At the same time inoculation of neutral broth is done with a cc. of the suspected water and grown at 37°C. for 3 days for the production of indol. If gas is produced in the first and third experiments, new fermentation tubes are inoculated from the Parietti tube that has grown, and the gas and proportion noted At the same time litmus milk is inoculated for coagulation and acid production. Then if the following results are obtained colon bacilli, without attempting to relegate them to any special type are pronounced present, viz.:

From Primary Cultures.

1. Uffalmann gas and color colonies.
2. Parietti tubes showing growth having colon morphology and motility.
3. Smith-tubes, gas and approximate proportion of Co_2 to hydrogen.
4. Indol present.

From Secondary Cultures made from highest Parietti.

1. Smith-tube gas and proportion of Co_2 to H_2.
2. Milk coagulation and acidity.

Note is also taken of faecal odor.

If all these are present we take it that the colon bacillus is present.

If in addition to this, there is a high bacterial count and a large quantity of chlorine present the water is condemned.

Preparation of Media. Media is prepared after the recommendation of the Bacteriological Section of the American Public Health Association as reported in 1895, except as to the immediate technique. In this I have followed Dr. H. W. Hill's method for the three principal media (broth, gelatine and agar), (Twenty-eighth Annual Report of the Health Department of the City of Boston).

Storage of Media This is done in a specially constructed refrigerator. This has its ice contained at an upper corner, the cold air dropping downwards then rising up the other side, repassing over the ice again and again. It keeps the air dry enough not to evaporate too rapidly and sufficient not to have tube always moist and sticky as in older form of refrigerator.

Tabular statement of work done in the laboratory during the year. In all there were examined in the laboratory 1,669 specimens. These were divided as follows:

Sputum in cases suspected of tuberculosis			703
Exudate " "	diphtheria		526
Blood " "	typhoid fever		221
Water for bacteriological examination			194
Water for chemical examination			33
Sewage for discovery of changes from treatment			7
Ice for bacteriological examination			2
Milk for bacteriological examination			4
Tissues from meat—supplies suspected of tuberculosis		4	
" "	actinonycosis	2	
" "	anthrax	4	
" "	unknown	2	12
			1,669

Table showing by months the number of examinations made under each of the above headings.

Months.	Tuberculosis.	Diphtheria.	Typhoid fever.	Bacteriological water.	Chemical water.	Sewage.	Ice.	Milk.	Tuberculosis in meat.	Actinomycosis in meat.	Anthrax in cattle.	Unknown and none discovered	Total for each month.
January	53	59	22	1	0	2	0	0	0	0	0	0	137
February	59	45	9	0	2	0	0	0	0	0	0	0	115
March	69	22	17	0	0	0	0	0	0	0	0	0	108
April	57	20	12	0	0	0	0	0	0	0	0	0	89
May	69	30	7	5	0	1	0	0	0	0	0	0	112
June	84	12	13	3	2	0	0	0	0	0	0	0	114
July	54	51	11	3	3	0	0	0	0	0	0	0	122
August	42	28	24	18	4	2	2	1	0	0	4	0	125
September	37	23	30	56	7	2	0	2	1	0	0	0	158
October	68	79	38	32	6	0	0	0	0	0	0	1	224
November	57	88	19	17	5	0	0	1	2	1	0	1	191
December	54	69	19	26	4	0	0	0	1	1	0	0	174
Totals	703	526	221	161	33	7	2	4	4	2	4	2	1,669

Tuberculosis.—There were examined during the year 703 specimens of sputum from patients suspected of having tuberculosis, of these 271 showed the presence of the bacilli of tuberculosis. Blank cards asking for the name, age and sex of the patient, the physician's name and address, the date of first symptom, the present symptoms, and finally the suspected source of infection. It is required that these data be given for statistical purposes. With 480 of the above 703 specimen cards were sent. After this year no examinations will be made free of charge unless these cards properly filled out are sent with them.

Of these 480 specimens giving records, 216 were from male patients, and 264 from female patients. Again of the 480 specimens 170 showed the bacilli of tuberculosis.

Table showing the ages with sex of the 170 positive cases

Sex.	5-10 years.	11-15 years.	16-20 years	21-30 years.	31-40 years.	41-50 years.	51 on years	Total of each.
Male	1	0	13	28	16	14	7	79
Females	0	0	16	33	20	8	9	91
Totals	1	0	29	61	36	22	16	Grand total 170

This table shows the great preponderance of the positives to be between the ages of 20 and 30 years.

Table in months to 24, 3 to 10 years, showing the time at which the bacilli were found from the inception of symptoms.

	Months.																								Years.			
Period	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	3	4	5	10
Cases	7	18	20	7	8	28	8	11	2	3	1	22	1	2	4	0	0	2	0	2	0	0	0	9	6	5	3	1

This table illustrates well the value ot a bacterial examination in the early stages of the disease, when proper treatment with such good chance of cure can be undertaken before it is too late, all but 35 out of the above 170 showed the bacilli before the end of the first year, and 88 of the remaining showed them before the seventh month. The rest of the data given is not sufficiently complete to be of any great value if tabulated.

Diphtheria.—Cultures were made from 526 cases suspected of diphtheria, of these 247 showed the bacilli of diphtheria. An increasing number are being sent in for release from quarantine, though the greater number at the present time are being sent in for diagnosis.

Typhoid.—In all 221 specimens of blood were examined, a positive result was found in 54. Cards were sent in with 141. Of these 26 showed a positive result, giving the Widal reaction typically. In 13 cases a partial reaction was given.

Table showing the days on which a positive result was obtained.

	Days.																								
Period	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Cases	0	0	0	1	1	0	7	1	2	3	2	2	0	1	0	0	2	1	0	1	1	0	0	1	.

Table showing the days on which a partial result was obtained.

	Days.																								
Period	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Cases	0	0	0	0	0	1	1	1	4	0	1	1	0	2	0	0	0	0	0	0	1	0	0	0	1

Bacteriological examination of water.—194 specimens in all were subjected to a bacterial test. The chiefest stress was put on the discovery of the colon bacillus. This bacillus was shown to be present in 79 specimens. Of these 43 showed a chlorine test considerably above the normal for the district. Thirteen (13) of the specimens in which no colon bacilli were found showed a high chlorine test, but these were all cold weather tests.

Chemical examinations of water.—Thirty-three were done during the year. With very few exceptions all those showing high chlorine showed at the same time high free ammonia, albumenoid ammonia and nitrogen as nitrites and nitrates.

Anthrax.—This was shown to be the cause of death in some cattle which had grazed on land overflown by water from a tannery. It was only after the second examination of these specimens that the organisms were found. For some reason the growth was generally tardy.

Tuberculosis in butchers' meat was found in three out of four specimens presented. All showed the organisms on direct staining.

Miscellaneous Matter.—The sewage was from sewage plants, and these not being yet in working order the tests were of very little value except as indications for the rearrangements of the plants. The rest of the specimens examined showed nothing of any note.

John A. Amyot,
Bacteriologist.

PART II.

ANNUAL REPORT BOARD OF HEALTH.

PART II.

ANNUAL ADDRESS OF CHAIRMAN OF PROVINCIAL BOARD OF HEALTH.

BY HARRY E. VAUX, M.D., HAMILTON.

GENTLEMEN,—Another year has swiftly passed, and to-day we are again called upon to take up the important duties placed upon us by the Government of our fair Province. As we assemble year by year we are painfully conscious of the absence of faces which had become very familiar and dear to us, and we miss the voices of those who for many years have been closely associated with us in devising and maturing measures which had for their object the prevention of disease.

I am sure I voice the feelings of the older members of the Board when I extend a cordial welcome to the new members who, since the beginning of the past year have taken their seats with us, and I feel quite sure that the same fraternal feeling which has been so conspicuously present in the past will exist in the future.

It would seem appropriate at this, the first meeting of a new year and a new century to take a retrospective glance at what has been accomplished in sanitation, even during the few years of this Board's existence—of the slow, apparently, and yet really rapid education of the public mind in matters pertaining to the elemental principles of hygiene, and of the difficulties and obstacles placed in the way of advanced legislation by those who should have been the most forward in the movements advocated.

I presume the history of our Board and its struggles is the history of all other reform movements. But, gentlemen, standing at the threshold of a new century we can indeed thank God and take courage, for I believe sanitarians stand to-day in a position which a few years ago appeared to be almost beyond their reach. Their efforts are being better known and more appreciated by those whose interests are at stake, and who will not be satisfied until every available safeguard is thrown around those they love. But, gentlemen, fascinating as would be a review of all that has been done in sanitation, and of all that may be achieved by persistent and paintaking effort in the future, I feel that, even had I the ability, this is neither the time nor the place for such an attempt.

During the year which has passed the work of the Board has been largely of a routine character. There have been no serious emergencies to grapple with; although, as appears from the quarterly reports of the Secretary, the year opened and closed with small-pox, and it is still with us. It has indeed been a most remarkable outbreak, existing, as seen by the reports of the Marine Hospital Service, in almost every State of the American Union, with thousands of cases, and a death-rate of only four per cent

Dr. Lindsley, the old and experienced officer of the Connecticut State Board, says: "The most remarkable characteristic of this widespread epidemic is the mildness of its type. In this respect it is unprecedented in the experience of any living observer. Nor can there be found in all the mass of literature on the the subject any account of an epidemic of small-pox in so mild a form, and so free from fatal results Indeed, in many places where it has prevailed the profession for a time has been divided in its diagnosis of chicken-pox or small-pox.

The remarkable feature of this outbreak of small-pox is the persistence of the type. It is true many cases have been severe, and some protracted, but they lacked the essential character of genuine virulence. That this may be and is temporary, and may at any moment be associated with cases of intense virulence, was illustrated last April in the unfortunate outbreak introduced by a traveller from Australia who, in some unknown way, became inoculated on his way to Winnipeg. Within forty eight hours he died of hemorrhagic disease, not diagnosed until after death.

The results were most disastrous. Of persons who travelled with him in the Pullman, a number developed the disease in several places between Winnipeg and Montreal, with fatal results in probably one-third of the cases. But besides these, travellers who occupied the Pullman after the patient was removed contracted the disease from the infected air or bedding of the car. The disease spread at Port Arthur and Fort William to several points along the C. P. R., and required the most vigorous measures to be adopted by our Board before it was finally stamped out.

It is a remarkable fact that during the past year in Ontario we have had at least twenty distinct centres of the disease. In every case the invasion has been promptly and

completely stamped out, whilst in the neighboring States the disease has remained continuous for over two years. This very satisfactory showing is evidently due to the close union existing between the Provincial Board and the Local Boards of Health, whereby on the first note of danger being sounded, prompt and concerted action is taken by our very efficient Secretary and the local municipality where the disease has appeared.

In the matter of other contagious diseases the monthly reports, which are issued by our Board, show a very satisfactory state of public health, except in the case of typhoid fever. In the last issue of THE CANADIAN JOURNAL OF MEDICINE AND SURGERY there appears a very timely article by our confrere, Dr. J. J. Cassidy, on "Typhoid in Foul Wells." In it attention is called to the prevailing neglect of the requirements of the Act providing for the yearly cleansing of wells. Ordinary pollution by the top, as illustrated by that article, is indeed very common,and in this way doubtless the B. coli becomes an ordinary inhabitant of many wells, but the pollution by soakage of animal excreta is of a permanent character, and is a matter demanding more general enlightenment than at present commonly exists, especially in rural districts. The question which naturally presents itself to the mind after reading examples given in the article just referred to, as well as many familiar to ourselves, is whether the mere presence of the B coli in potable waters fulfils all the conditions necessary to an outbreak of typhoid. The question of the influence of temperature and rainfall on typhoid is a matter of much importance, and one which, after the experience of the past autumn, demands to be studied yet more closely, along with the biological factors, than it has hitherto been.

Other diseases, as scarlet fever and diphtheria, have not shown any notable prevalence as a whole, and it is gratifying to find that diphtheria in 1900 has again fallen below the previous years. An exception to this general statement must be made, however, in the case of the city of Toronto, where, estimating the population at 200,000, with 149 deaths, the rate was 74 for 1,000 ; whereas, other cities in Ontario, with populations of 260,000, had only a death-rate from diphtheria of 60, or 23 per 1,000. This is the more remarkable, inasmuch as the total mortality from diphtheria in the Province for the year 1900 was 486, of which Toronto supplies nearly one-third. This new year already gives a mortality of 21.

Perhaps of all subjects which to-day press themselves upon our attention as a Board, is that ever present one, the restriction of tuberculosis. The members of the Board cannot be unmindful of their long and continued efforts for many years to keep this disease in its many phases before the attention of the public. I learn from the Registrar's Report just published, that 1899 again shows an increase in mortality, and even the monthly reports for 1900 seem to show rather an increase than a diminution of this class of deaths. The public has become greatly agitated over this matter, and from all classes of the community the cry comes: What can be done to save our loved ones from this terrible scourge ?

There can be no doubt that, if we may judge from the immunity of tribes dwelling in tents—the Bedouins of the desert, and of those people who live in open houses in Southern climates—the one panacea is fresh air.

Sir F. Broadbent, President of the British Association for the Prevention of Tuberculosis, has said that if people could be induced to live with their sleeping-room windows partly open, the deaths from tuberculosis would be decreased one-half in a year.

Making due allowance for such general statements, the very difference in germ percentage between out-door and in-door air illustrates the point in this remark. Hence, in the cottages of our work-people, in their work-shops,in factories, in schools, indeed everywhere, the problems of how to maintain the purity of the air precedes all others.

See what it means. Over the sea Miquel says there are but six germs per cubic metre of air. In a new house (in Paris), 7,000; in an old house, 37,000 ; and in a hospital, 78,000 ; and out-door air, even in cities, is always more pure than that in houses. The problem becomes at once one for municipal authorities to recognize and endeavor to solve by the enforcement of sanitary by-laws for schools, factories, and shops of every kind. From the standpoint of cure, we have as physicians quite generally accepted the new creed, and the air cure sanatorium has taken firm possession of the public mind.

The action of the Legislature last session, as embodied in the excellent bill introduced by the Hon. Mr. Stratton, whereby municipalities are aided and encouraged to erect sanatoria, must be very gratifying to this Board, as it so completely falls in line with the

views which for years we have been advocating. And as further evidence of the importance which is being attached to the subject, I need only refer to the fact that a conference, under the distinguished patronage of their Excellencies the Earl and Countess of Minto, is to be held in Ottawa on the 14th inst. to take concerted action in meeting the ravages of tuberculosis, and I trust that representatives from this Board will be sent in response to invitations received.

REPORT OF SECOND QUARTERLY MEETING OF BOARD.

Mr. Chairman and Gentlemen : MAY 8th, 1900.

The past quarter, generally the most unhealthy of the year in Canada, has not been marked by specially high death rates in the several common contagious diseases.

Smallpox —Of these, however, smallpox has continued to cause your committee much anxiety. The outbreak in Essex was practically suppressed when the Board last met ; but this immunity was only for a moment, as new cases were imported from Detroit as per the following statement contained in a circular sent out at the time :

TORONTO, March 8th, 1900.

DEAR SIR : In compliance with the resolutions adopted at the Conference of State and Provincial Boards of Health, held at Toronto, October 6th, 1886, respecting Inter-State notification of contagious diseases, I beg to make the following statement regarding the prevalence of smallpox in Ontario at the present time.

County.	Municipality.	Date of outbreak.	Source.	Cases.				Remarks.			
				Total.	Still sick.	Died.	Recovered.	Houses infected.	Houses at present infected.	Isolated in hospital.	Isolated in private houses.
Essex	Amherstburg	Feb. 20	Detroit.	3	3	....	...	2	2	.....	3
"	Malden	" 23	"	1	1	....	....	1	1	.....	1
"	Mersea	" 23	"	1	1	....	....	1	1	.....	1
"	Sandwich, E	" 27	Unknown	1	1	....	....	1	1	.....	1
Middlesex	Mosa	" 17	Indiana	1	1	....	....	1	1	.....	1
"	Lobo	Mar. 6	Detroit.	1	1	....	....	1	1	...	1
York	Toronto Junct	Jan. 15	Unknown	16	15	....	1	4	...	15	....
"	Toronto City	Feb. 13	Toronto Junct.	2	2	....	....	2	1	2	.....

I have the honor to be, Sir,

Your obedient servant,

PETER H. BRYCE,
Secretary.

These repeated outbreaks call for more than a passing notice, since they involve a serious expenditure on the part of municipalities.

From October, 1898, smallpox has been brought into the Province from Michigan directly or indirectly as follows :

1898—*Kent*—Camden 1
Chatham 1
1899—*Essex*—Colchester Tp 1
Walkerville 1
Sandwich 1
1900—*Essex*—Amherstburgh Town 1
Malden Tp 1
Mersea Tp 1
Sandwich E 1
Walkerville 1
1900—*Middlesex*—Caradoc Tp 1
Sarnia 1
Mosa Tp 1
Lobo Tp 1

It thus appears that within a period of 18 months, fourteen (14) distinct introductions of the disease into Ontario from Michigan have taken place, occasioning outbreaks in 20 municipalities. What some of these outbreaks have cost is illustrated by the following figures obtained from returns made by the Local Boards of several municipalities :

Essex County :	
Rochester Tp	$1,824 22
Tilbury, N	339 00
Tilbury, West	1,122 20
Maidstone	1,016 81
Colchester, N	426 33
Prescott and Russell Counties :	
Hawkesbury, East	1,658 00
Hawkesbury Town	223 00
Vankleek Hill	392 48
Plantagenet, N	414 88
Leeds and Grenville Counties :	
Wolford Tp	1,150 00
Stormont, D & G. :	
Osnabruck Tp	698 00
Cornwall Town	577 76

Remembering the fears which periodically reach this Board whenever a case occurs in Ontario, lest it should be allowed to transmit cases to Michigan, and notably Detroit; remembering at the same time that such transmission of a single case during ten years cannot be recalled to your commiittee, such a chronicle might naturally call for a satirical commentary. But it has for many years been considered by your committee that no sanitary or commercial interest is served by attempts to restrict traffic either local or railway at the border and that the best quarantines of safety are the efficient action of the state and municipal authorities where outbreaks occur, and a cordial understanding and co operation between officials for information to assist in the tracing of suspects.

While it is satisfactory indeed to know that the disease has with so many opportunities to spread been stamped out in so many outbreaks, and that with the exception of cases introduced from the west coast causing outbreaks, there is no smallpox in the Province, it is apparent, inasmuch as our border municipalities must always bear the brunt of such outbreaks and their consequent expense, that the question of what part the quarantine authorities might perform in preventing such outbreaks or if not preventing, at any rate supplying hospital facilities as at the sea-ports for caring for them, is a pertinent one. The sea-port quarantines are fully organized and equipped, while Customs officers are charged with nominal powers as officers at various ports of entry.

It is understood that a quarantine medical inspector is quartered at Emerson, the entrance to Manitoba, for dealing with cases of smallpox ; but so far Ontario receives no assistance although the danger from the number of travellers is manifestly much greater than in the west.

In the submitted communication the matter has been referred to in a letter to the Director of Public Health, Ottawa, from whom a reply has been received.

It would seem proper that the matter should receive further attention through the proper official channels, should the Board so recommend.

Scarlatina and Diphtheria As may be seen by the reference to the monthly statement of deaths, scarlatina has shown a reduction during the winter months of exactly one-third from that of 1899 ; while diphtheria shows much the same distribution and number of cases. The annual mortality from both, based on these figures, is remarkably low compared with past years and other countries.

Measles and Whooping Cough. These diseases have shown in March of this year a marked prevalence, deaths from measles amounting to as many as scarlatina, Toronto alone having eleven deaths or half the whole in the Province. In many places measles has been associated with rotheln or German measles, occasionally in adults assuming a severe type. The problem of dealing with measles as thoroughly as with other eruptive

diseases has not yet been solved, the enforcement of our municipal methods seeming as yet not to be sufficiently great to meet the needs of the case.

Whooping cough shows a very low mortality, almost 50 per cent. less than that of 1899.

Tuberculosis. This disease has shown during the quarter a rather less mortality than in 1899. It will be remembered that the quarter in 1899 was the severest winter for a number of years and that influenza became epidemic in some districts. The weather of the present quarter has in many ways been normal and shows that 558 deaths from pulmonary consumption occurred. The importance of this figure to the Board is seen when the total deaths from scarlatina, diphtheria, small-pox, whooping-cough and measles is seen to have been but 254, or less than one half the total from tuberculosis. The figures in all cases represent 90 per cent. of the total population of the province in 1900, and 93 per cent. in 1899. There seems some evidence that there is a slight tendency for the deaths from tuberculosis to follow the very definite decrease shown on the other contagious diseases, but it is scarcely perceptible. The marvellous fact is seen that if this disease had followed the same course since 1882 that the others have done there would have been saved to the Province in lives this year some 4,000 persons, or the total mortality of Ontario would have been reduced nearly 18 per cent. from these causes alone. It is with peculiar satisfaction that your committee can refer to the fact that the Legislature has passed at the session just ended a bill which in its comprehensive character exceeds any legislation known in any other country for dealing systematically with tuberculosis. Its provisions are simple, clearly setting forth how county municipalities are to proceed to deal with the question of establishing sanatoria for the tuberculized. Naturally they are designed especially to help Local Boards of Health in dealing with the cases of persons of limited means,—the wage earning class,—where but little provision is possible for supplying the family of a man unable to work.

The part which this Board has had in educating the public of the Province in this matter is best seen in the Annual Reports, especially of the last ten years.

Its contagious character, its dependence upon denseness of population, its persistence in any house which has once become a centre, its close association with crowding in certain indoor occupations, its prevalence amongst workmen in certain trades—as stone-cutting, tool-grinding, etc., and all occupations which lessen general health, have been again and again set forth. The public as well as the profession are aroused to these conditions and need for action; but perhaps even more aroused as to the possibilities of cure and of charitable means for assisting this cure by establishing sanatoria. The work begun in Toronto for the establishment of an Association for promoting such sanatoria will, it is hoped, spread rapidly, and your Committee trusts that the Board will continue to lend its active assistance individually and as a Board to the promotion of this work of prime necessity.

Respectfully recommended,

P. H, BRYCE.
J. J. CASSIDY.

THIRD QUARTERLY REPORT OF SECRETARY.

August 12, 1900.

Mr. Chairman and Committee of Toronto Board of Health:

Your Secretary begs to report with pleasure the present complete freedom of Ontario from smallpox. It will be remembered that owing to a case on the C.P.R. train entering Winnipeg an outbreak had occurred there, and an extensive outbreak had resulted therefrom at Thunder Bay and Arnprior. Within a few days a case from that same source appeared at Carleton Place and a number of cases in Montreal.

These points were soon under control, when a sudden and extended outbreak occurred at Port Arthur, and from it cases at the Sault, at Fort William, at Saw Bill mines, and later at Wolfe River, the source being an undiagnosed case in the person of a contractor of Port Arthur, who had recovered and been abroad in the town a week before the second group of cases appeared.

The following fortnightly reports exactly state, the dates of outbreaks and their number at the different points.

As many persons had been exposed to the convalescent in hotels and on the street, as may be supposed, something like a panic existed at the time of my visit, due to an urgent telegram on May 22nd.

One physician had gone to the quarantine station with the patients and only one was left to attend to all health and medical duties. Business had been greatly interrupted, several hotels being under quarantine.

TORONTO, May 2nd, 1900.

DEAR SIR,—In compliance with the resolutions adopted at the Conference of State and Provincial Boards of Health, held at Toronto, October 6th, 1886, respecting Inter-State notification of Contagious Diseases, I beg to make the following statement regarding the prevalence of small-pox in Ontario at the present time.

County.	Municipality.	Date of outbreak.	Source.	Cases.				Remarks.			
				Total.	Still sick.	Died.	Recovered.	Houses infected.	Houses at present infected	Isolated in hospital.	Isolated in private houses.
Essex	Walkerville.....	April 18.. ..	Detroit	1	1	....	....	1		1	....
Renfrew	Arnprior	April 28	.....	1	1	....	....	1	1	....	1
Thunder Bay	Port Arthur	May 1.....	.....	1	1	....	....	1	1	1	....

The Arnprior and Port Arthur cases were exposed on a Canadian Pacific train from Vancouver, from which the cases in Winnipeg, Manitoba, arose.

I have the honor to be, Sir,
Your obedient servant,
PETER H. BRYCE,
Secretary.

TORONTO, May 18th, 1900.

DEAR SIR,—In compliance with the resolutions adopted at the Conference of State and Provincial Boards of Health, held at Toronto, October 6th, 1886, respecting Inter-State notification of Contagious Diseases, I beg to make the following statement regarding the prevalence of small-pox in Ontario at the present time.

County.	Municipality.	Date of outbreak.	Source.	Cases.				Remarks.			
				Total.	Still sick.	Died.	Recovered.	Houses infected.	Houses at present infected.	Isolated in hospital.	Isolated in private houses.
Renfrew	Arnprior	April 28 ...	C.P.R. train from west.	1	....	1	....	...	....	....	....
Thunder Bay	Port Arthur.....	May 1.....	do	2	2	...	....	1	1	2	....
Lanark	Carleton Place....	April 25.....	do	3	3	....	....	2	2	3	....
Simcoe	Collingwood	May 12	Michigan...	1	1	. ..	....	....	....	1	....

Walkerville Town declared free of small-pox on May 14th; Arnprior Town declared free on May 11th. The Collingwood case was brought into port by a steamer.

I have the honor to be, Sir,
Your obedient servant,
PETER H. BRYCE,
Secretary.

TORONTO, June 1st, 1900.

DEAR SIR,—In compliance with the resolutions adopted at the Conference of State and Provincial Boards of Health, held at Toronto, October 6th, 1886, respecting Inter-State notification of Contagious Diseases, I beg to make the following statement regarding the prevalence of small-pox in Ontario at the present time.

County.	Municipality.	Date of outbreak.	Source.	Cases.				Remarks.			
				Total.	Still sick.	Died.	Recovered.	Houses infected.	Houses at present infected.	Isolated in hospital.	Isolated in private houses.
Simcoe	Collingwood	May 12.....	Michigan ..	1	1	....	....	....	....	1	....
Lanark	Carleton Place....	April 25.....	C.P.R. train from west.	6	4	2	....	4	....	4	....
Thunder Bay ...	Port Arthur	May 1.....	do	10	7	2	1	4	....	7	....
do	Fort William .. .	" 8.....	Port Arthur	3	2	1	....	3	....	2	....
do	Saw Bill Mining District	" 8.....	do	1	1	....	..	1	1	....	....
Algoma	Sault Ste. Marie..	" 8.....	do	3	2	1	....	2	2	2	....

The cases at Fort William, Sault Ste. Marie and the Saw Bill Camp arose from an undiagnosed case at Port Arthur.

I have the honor to be, Sir,
Your obedient servant,

PETER H. BRYCE,
Secretary.

TORONTO, June 27th, 1900.

DEAR SIR,—Since last report, dated June 1st, there have been in the Province of Ontario two new cases of small-pox and one death, all at Port Arthur. No new cases have occurred since June 12th.

I have the honor to be,
Your obedient servant,

PETER H. BRYCE,
Secretary.

FOURTH QUARTERLY REPORT OF THE SECRETARY.

TORONTO, OCT. 15TH, 1900.

To the Chairman and Members of the Provincial Board of Health.

GENTLEMEN,—Your Secretary begs leave to report on the general health conditions of the Province for the past quarter. In the monthly report of the Registrar General it will be noted that typhoid fever has shown an increased prevalence, especially in September, there being 54 deaths reported from 85 per cent. of the population, while in 1899 there were but 55 deaths from 99 per cent. of the population. As will be found, the Laboratory report shows an unusual number of applications for analyses in connection with outbreaks of typhoid fever. The places where deaths have occurred are as follows :—

1 Woodstock
1 Blanchard Twp.
1 Renfrew Twp.
1 Tay Twp.
1 Lindsay
1 Wiarton
3 Ottawa
1 Berlin
1 Derby
1 Tilbury
1 Richmond Hill
1 Galt
1 Carlton Place
2 London
1 Reach
1 Blenheim Twp.
1 W. Hawkesbury
1 Orillia
1 Winchester Twp.
2 Sault Ste. Marie
1 Erin Twp.
1 Hamilton
2 Windsor
1 Dresden
1 Osborne
3 Toronto
1 Romney
1 St. Catharines.
1 Oshawa
1 Peterborough
1 S. Himsworth Tp.
1 Cornwall
1 Cornwall Tp.
3 Brantford
1 Brant Tp.
1 Nichol Tp.
1 Owen Sound
1 Ridgetown
1 Stephen
1 Wainfleet Tp.
1 Camden Tp.
2 Strathroy
1 E. Whitby Tp.

It will be apparent that these are endemic outbreaks rather than any epidemic appearance of the disease. The interesting fact would seem to be that in nearly every instance where analysis of water has been made, the pollution of well water by animal organic matter has been apparent.

Diphtheria.—The month of September shows a very marked advance in deaths from Diphtheria as compared with 1899, there being 40 deaths for a population of 85 per cent., as compared with 21 deaths for a population of 99 per cent in 1899. An analysis shows that an unusual percentage of these occurred in Toronto, there being 16 out of the 40, or more than one-third. A further examination of the returns of past months as set forth in the following table shows that there has existed in Toronto during the past year a general tendency toward an increase in Diphtheria, as judged by the mortality returns. Relatively to the other cities the rate per 1,000 has also been higher. What is interesting is that the summer months show no falling off in deaths either in 1899 or 1900.

	May	June	July	August	September
1899.....	5	5	7	10	4
1900.....	12	10	12	12	16

In 1899 the rate per 1,000 was 0.46 in Toronto. In 12 other cities the rate per 1,000 was 0 17. The total deaths in Toronto for the 9 months of 1900 were 102. The total for the 12 other cities 32. If the prevalence of these months is continued the rate would be notably above *the average for several past years.*

Deaths by Months from Diphtheria in Cities, 1899.

Cities	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.	Total
Toronto.....	2	13	9	9	5	5	7	10	4	7	12	9	92
Brantford	0	0	0	0	0	0	0	0	0	0	0	0	0
Ottawa	2	0	0	1	0	0	2	0	3	9	2	2	21
St. Thomas...	0	0	0	0	0	0	0	0	1	0	0	0	1
Kingston	0	0	0	0	0	0	0	0	1	0	0	0	1
Windsor	0	0	0	0	0	0	0	0	0	0	0	0	0
Belleville	1	0	0	0	0	0	0	0	0	0	0	0	1
Chatham	0	0	0	0	0	0	0	0	0	0	0	0	0
St. Catharines.	0	0	0	0	0	0	1	0	0	0	0	0	1
London	1	0	0	2	0	3	1	1	0	0	1	0	9
Stratford.....	0	0	0	0	0	0	0	0	0	0	0	0	0
Guelph	1	0	0	0	0	0	0	0	0	0	0	0	1
Hamilton	2	0	0	0	1	4	0	0	1	0	1	3	12
													139

Deaths from Contagious Diseases in Ontario by Cities for Year 1900.

	Scarlatina.	Diphth.	Measles.	Wh. Cough.	Typhoid.	Tuberc.	
Brantford	1	1	1	1	12	27	43
Ottawa	10	31	2	18	16	101	178
St. Thomas	6				1	5	12
Windsor	1				8	7	16
Kingston	7	1		1	3	44	56
Belleville	2				2	14	18
Chatham		2			1	14	17
St. Catharines		2	1		6	21	30
London	3	6			12	49	70
Stratford	2				4	12	18
Guelph	2	1			3	14	20
Hamilton	6	16	6	1	16	67	112
Toronto	24	149	34	8	31	331	577

Toronto ..... pop. 200,000, Diphth. deaths 149=0.74 per 1,000.
Twelve other cities..... pop. 260,000, Diphth. deaths 60=0.23 per 1,000.

Total Deaths for Year 1900 from Monthly Reports—25,383.

93 per cent. of population reporting.

The following Table shows Deaths from Contagious Diseases during the year :—

Scarlatina.	Diphtheria.	Measles.	Whooping Cough.	Typhoid.	Consumption.
133	486	93	121	550	2,360

Deaths from Contagious Diseases by Months :—

	Scarlatina.	Diphtheria.	Measles.	Wh. Cough.	Typhoid.	Consumption.
January	13	51	2	4	16	183
February	14	39	7	3	13	186
March	23	34	22	7	16	188
April	15	24	27	11	9	203
May	8	27	13	8	15	239
June	6	30	1	7	11	200
July	9	44	9	7	15	264
August	8	31	1	14	44	180
September	3	42	2	20	58	172
October	8	44	2	10	120	169
November	12	50	3	20	141	161
December	14	70	4	10	92	215
Total	183	486	93	121	550	2,360

Total Deaths by Months from all causes :

Jan.	Feb.	Mch.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
1,771	1,962	2,330	2,311	2,162	1,752	2,021	2,371.	2,490	2,056	1,984	2,172

Total, 25,382.

1900. *Deaths by Months from Diphtheria in Cities* 1900.

Cities.	Jan.	Feb.	Mar.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
Toronto	8	10	11	11	12	10	12	12	16	....	....	....	102
Brantford	0	0	0	0	0	0	0	1	0	....	....	....	1
Ottawa	3	4	3	0	3	0	2	0	0		....	....	15
St. Thomas	0	0	0	0	0	0	0	0	0	....	....	....	0
Windsor	0	0	0	0	0	0	0	0	0	....	....	....	0
Kingston	0	0	0	0	1	0	0	0	0	....	....	....	1
Belleville	0	0	0	0	0	0	0	0	0	....	....	....	0
Chatham	0	1	0	0	0	0	0	0	....	....	....	....	1
St. Catharines	0	0	0	0	0	0	0	0	1	....	....	....	1
London	1	0	0	0	0	2	1	0	1	....	....	....	5
Stratford	0	0	0	0	0	0	0	0	0	....	....	....	0
Guelph	0	0	0	0	0	0	0	0	0	....	....	....	0
Hamilton	0	2	1	1	0	1	3	0	...	...	....	....	8
													134

Nine months, total deaths for Province (only half returns in for Sept.) 280.
Toronto, death rate for 1900, 0.68 per 1,000.
Twelve other cities, death rate for 1900, 0.18 per 1,000.

Deaths from Diphtheria in Toronto for 9 months, 1899 and 1900.

Month.	1899.	1900.
January	2	8
February	13	10
March	9	11
April	9	11
May	5	12
June	5	10
July	7	12
August	10	12
September	4	16
	64	102

Small-Pox The Province is once more to be congratulated on being free from a single case of small-pox at any point. Remembering that it has existed for two years continuously in Michigan, from whence 20 distinct introductions have occurred, and that it has also been present in Ohio, Pennsylvania, and parts of New York State, this position is very satisfactory.

The Quarantine authorities of the Dominion, during the navigation season, have maintained officers at ports on the upper lakes, with satisfactory results; but this Board is notified as per letter of the Director General of Public Health, dated October 4th, of the intended withdrawal of these officers. The theory on which defence against introduction by steamboat is provided in this Province, and no means for dealing with cases brought by train or ferry-boat has not yet been explained; but the injustice to local municipalities near the boundary of having the cost of such patients saddled upon them is apparent.

Tuberculosis. The deaths from Tuberculosis during the summer have shown a very marked increase over 1899, there having been in June, July and August 644 as compared with 507 in 1899, or an increase of 27 °/₀. The further remarkable fact is seen that 264 deaths occurred in July, or 50 °/₀ more than in 1899. The explanation of such an increase is difficult, as the population reported upon is nearly the same; but what is more serious is the increase of 27°/₀ over a period so long as three months. How different such conditions are from those which have marked diphtheria during the past 15 years is seen from the fact that while in 1887 there were 1786 deaths due to diphtheria, there were in 1899 but 363, for which the advance of science and preventive medicine may fairly be credited. The following is a comparative table of the deaths from tuberculosis, by months, for 1899 and 1900 in the different cities in the Province.

1899. *Deaths by Months from Tuberculosis, Cities* 1899

City.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Toronto	22	33	33	30	36	22	31	25	20	36	17	19	324
Brantford	1	4	1	3	2	1	2	2	3	2	2	2	26
Ottawa	10	8	12	8	6	11	12	11	4	7	7	9	105
St. Thomas	0	0	2	0	0	1	0	0	0	1	1	1	6
Kingston	4	1	2	6	4	3	2	1	4	4	0	2	33
Windsor	2	0	1	0	0	1	1	1	1	2	0	3	12
Belleville	1	0	0	3	0	1	1	0	0	1	0	2	9
Chatham	2	2	2	2	1	2	0	1	2	3	0	0	17
St. Catharines	0	1	1	4	1	0	3	2	1	0	2	0	15
London	4	2	2	12	6	5	4	5	4	3	6	6	59
Stratford	0	2	0	3	2	0	0	1	1	1	0	2	12
Guelph	0	2	2	2	1	2	5	3	1	0	0	1	16
Hamilton	11	10	2	8	8	5	4	2	4	5	6	2	67
													611

1900. *Deaths from Tuberculosis, by Months, Cities.* 1900.

City.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Total.
Toronto	27	18	32	27	31	23	33	31	22	....	....	....	244
Brantford	4	3	2	2	2	2	1	4	2	....	....	....	22
Ottawa	7	10	8	12	13	8	8	8	8	....	....	....	82
St. Thomas	2	1	0	0	0	0	0	0	2	....	....	....	5
Kingston	5	3	3	7	1	3	3	3	2	....	....	....	30
Windsor	1	0	0	1	1	1	1	0	2	....	....	....	7
Chatham	3	2	1	1	1	1	1	2	0	....	....	....	12
Belleville	1	2	2	4	0	2	0	1	0	....	....	....	12
St. Catharines	3	0	4	2	2	1	1	0	1	....	....	....	14
London	4	3	5	4	5	8	3	0	1	....	....	....	33
Stratford	0	1	0	1	0	4	2	1	1	....	....	....	10
Guelph	0	2	0	1	0	2	1	4	1	....	....	....	11
Hamilton	6	3	3	6	8	4	6	7	4	....	....	....	47
													529

These include only deaths due to pulmonary tuberculosis .

While these figures show this summer's increase, a comparison for the whole year does not seem to indicate a proportionate increase of deaths from tuberculosis. In fact it is probable that the cities this year will show a rather relatively less number. This must be looked upon as evidence of increasing efforts on the part of Local Boards of Health to lessen the dangers of infection in houses, as well as of an increased knowledge by householders of the methods by which the presence of consumptive inmates can be rendered less dangerous.

In all this municipal work, however, the one great need is increased financial aid to Local Boards of Health and of officers to assist in the work. Thus, in Buffalo, the nearest American city, the work done, as shown by the Monthly Report, requires a much larger staff than the city officer of Toronto has engaged in the routine work of the Department. There is the plumbing branch, the free bath-house attendants, the city chemist, the inspector of food and drugs, the cattle and meat inspector, and a city physician for each of 10 city districts, and a special medical inspector of public schools. While our local boards show, in our larger centres, satisfactory results in some respects, it is apparent that in a growing city like Toronto, until the staff is made adequate, especially in the matter of medical inspectors for schools, it is not to be expected that the best work is possible.

All of which is respectfully submitted.

(Signed) P. H. BRYCE.

First Quarterly Report of the Secretary (1901).

Feb., 6, 1901.

Mr. Chairman and gentlemen of the Board.

I beg to report upon the public health of the Province, during the past quarter, It has been marked in several particulars by several disturbing elements, the first and most widespread of which was the persistence of typhoid fever in most areas of the Province. Not only was the death rate high as usual in September, but from that month onward it continued to progress very abnormally in fatality.

This will be seen in the following table.

Typhoid Deaths from Monthly Reports 90 per cent. of Population.

	1897.	1898	1899.	1900.
August	22	34	55	44
September	39	44	55	58
October	45	54	88	120
November	34	50	40	141
December	22	21	28	92

The cause of this is one of very great interest. The two elements entering into the causation of this as an exciting cause, or which seem to favor the propagation of the germ of the desease, are doubtless, temperature and rainfall, in so far as it effects well waters, as shown in the following table for the past 3 years.

The general distribution of the sickness and mortality must be stated.

From early summer to December, the Laboratory was in receipt of water samples from every district of the Province.

These are given by counties in the table submitted.

Mean Temperature and precipitation at Toronto.

	Mean temperature.			Precipitation.		
	1898.	1899.	1900.	1898.	1899.	1900.
	°	°	°	in.	in.	in.
January	25.39	22.52	26.22	3.650	2.870	1.940
February	24 65	19.28	20.64	3.060	1.730	5.210
March	36.29	27.99	23.59	2.400	4 275	3.450
April	43.44	44.66	45.18	1.695	1.615	1.850
May	54.97	55.12	54.86	2.305	3.290	0.995
June	65 54	65.25	65.16	1 945	0 655	2.425
July	70.50	68.77	68.47	0.690	1.020	2 730
August	69 72	69.37	71.57	1 080	0 270	2.745
September	62.80	56 76	63.73	2.790	5.150	1.425
October	50 29	50.45	55.67	5.770	4.550	2 115
November	36 06	40 58	38 29	3.015	1.015	3.895
December	26.23	28.89	29.31	2.550	2 535	0.830
	47.15	45 80	46.89	30.950	28.975	29.590

There seems no room for question as to the close relationship between periods of prolonged drought lowering the ground water and this associated with a long period of mild weather, maintaining into the autumn a high temperature of the ground water, and the prevalence of typhoid fever : That there must be a pollution of wells with animal matters, whether by soakage or by the top of the well, or both together would seem *a-priori* to be necessary, and is I believe borne out by the actual results of analysis

Unfortunately it is not often practicable to obtain any accurate history of the local

soil conditions surrounding wells: but the many variations in the analytical results of wells from the same town show how variable are local conditions judging by analysis.

The distribution of deaths by counties and municipalities is somewhat notable, but no general statement suffices to show the closer relationships existing between the location of wells and the presence of fever. The post glacial deposits of the Province show such a varied distribution that no two wells within any short distances need show the same relationship between sub-soil and surface-soil.

In other words what is needed is a detailed local investigation of the conditions surrounding every well whence a case of typhoid has seemed to proceed, which must be made if we expect to get much farther in our knowledge of these problems whose solution has proved for many years so elusive. One thing, is however, apparent that is that in centres where population has been growing for years and on certain soils as where sands and gravel are present and lie on top of the clay above which is the water stratum, so certainly do certain seasonal conditions as of last year develop outbreaks of typhoid, which would seem when once started to be spread by various mediums as possibly milk, personal infection, and perhaps through flies and food.

Diphtheria—Has continued to show an increased prevalence over the same quarter in 1899; but as may be expected from its mode of dissemination by personal contact, it has shown a special localized prevalence. As was pointed out in October Toronto has been unfortunate in this respect, the total deaths being 149 out of 209 in all the cities and of 486 for the Province. Ottawa has also shown a notable number of cases and the local board there have greatly felt, as in Toronto, the need for extended isolation hospital provisions.

There seems, as one gathers from time to time facts, little doubt but that there is a tendency to lessen the period of isolation convalescence from the routine period of four weeks, on the ground that the throat has on examination of a swab seemed to be free from the germs of the disease.

The recurrence of cases in the same houses or in cases where the convalescent is again allowed to mingle with the public raises anew the same vexed question of when is a child not dangerous to another. Experience as well as prudence is teaching us that time is an important element with constant disinfection of mucous membranes in limiting the dangers of spread of the disease.

Smallpox.—Since last summer, when the serious outbreak in Northern Ontario was stamped out, the Province has breathed freely, and viewed with complacency the prevalence of the disease in surrounding States. The fact that in these there is a very irregular attempt to inform the Board of the number of cases existing in them is perhaps the best evidence of its prevalence in them.

From the very imperfect data collated in the last report of the U.S. Marine Hospital Service for December 3399 cases were reported with 36 deaths, or more than three times the cases at same period in 1899.

It was not possible with so many centres that the Province should for long remain free, and on December 21st telegrams reported the disease as conveyed to "Sault" Ste. Marie from a near lumber camp, and resulted in six cases; one escaped to the American side and four detected in the woods. Your Secretary, owing to the emergency, despatched one sanitary policeman to guard the camps and the Board was called upon to pay for the physician in attendance on the case at the "Soo."

The outbreak was ended only to be followed by a new case from another camp on Jan. 30th, and a similar case reported from an Indian Reservation in the Sudbury District. All these outbreaks have shown a moderate severity in cases, no deaths having so far occurred.

A very similar outbreak was reported on January 7th from Fort William, where a sick man was taken from a "tie" camp in the woods, 100 miles west along the C. P. R. The danger here has been greater as the railroad can be reached at several stations, and as some 400 men were located in four camps it became necessary to vaccinate and police all of them

This work has been under the charge of Mr. McDougall, the Police Magistrate at Fort William, who has worked with energy. In addition to the first case, eight have developed in the woods and a physician has had to be sent there. So far no cases have escaped quarantine, and it is to be hoped that the outbreak is at an end.

The difficulty of dealing with cases at such a distance is great, especially when there is no municipal organization, and the growing frequency of such cases in the rapidly settling parts of Northern Ontario demands that this Board recommend that some systematic measures be adopted for dealing with such outbreaks apart from the cumbrous one of having every case thrown upon the Board for dealing with, at great distances and at the expense of the Board.

Your secretary would urge that the Board prepare such legislation for submission to the Minister, with a view to having a Bill brought in to deal with the matter.

Some idea of the importance of the matter and of the danger to which the general public and the municipalities of the district are exposed may be gathered from the following totals, which Mr. White, Deputy Commissioner of Crown Lands has supplied me with :

Thus in the mines of the five Territorial Districts some 3,000 men are employed, while according to the last returns made to the Crown Lands Department there are in the eleven Districts, in which the Crown Lands are arranged for purposes of inspection, 329 lumber camps with 19,000 men employed.

With regard to the larger question of the exposed position of the Province in the matter of the introduction of smallpox from neighbouring States, we need only refer to the imperfect records already given and to occasional statements direct from State Boards, and to newspaper and medical journal reports, in order to see that the Province must eventually receive cases from time to time from this foreign source. The disease, too, has appeared in Glasgow to a certain extent, and, while mild, it would appear that the elements of a very serious and persisting danger exist.

In view of the state of affairs it would seem that prudence would suggest that as Buffalo is insisting on a compulsory vaccination of school children the Board send out a circular pointing out the serious dangers at present, and increasingly likely to be present during the summer, when hundreds of thousands of persons will be visiting the " Fair " and passing into or through the Province, and urging that the general provisions of the Vaccination Act be enforced.

Tuberculosis —The year has closed and the monthly returns show this disease at least as prevalent as last year, pulmonary consumption having been reportod as causing 2,360 deaths, and 2,315 in 1899 It is gratifying to note, however, that in different quarters there is developing an active interest in sanatoria, and the opening year of the century will see active missionary work begun in several counties toward the end of having Sanatoria established. The activity shown in foreign countries and in neighbouring States is equally remarkable and it would seem as if what the past quarter of a century has done in the matter of the acute contagious diseases the coming decade will do in the matter of tuberculosis In addition to the several admirable private and semi-philanthropic institutions, different State Legislatures have been at work Massachusetts opened a sanatorum in October, 1898, recently reported upon, which was put up at a cost of $181 000 by the State in 200 acres at 1,160 feet height. Its results have been shown to be fully satisfactory. Propositions are now before the New York, New Jersey, Michigan and Pennsylvania Legislatures for establishing similar sanatoria, and other States are also moving in the matter. The development of the larger county unit in public health matters will ultimately prove in this, as in so many other matters, a great advance toward the solution of the many problems which now seemingly are waiting for some larger methods of dealing with them than our Local Board of Health methods in rural areas at least at present permit of. It remains for the Board to move again in what it has before approved of.

All of which is respectfully submitted,

P. H. BRYCE,
Secretary.

Report on Smallpox in the Rainy River District.

June 15th, 1900.

By C. A. Hodgetts, M.D., Medical Inspector.

P. H Bryce, Esq., M.D.,
Secretary Provincial Board of Health,
Toronto.

Sir,—I have the honor to report that during the past fortnight I have inspected that portion of the Province west of Port Arthur upon the line of the Canadian Pacific Railway, vaccinating along the line of the railroad where necessary between Port Arthur and Rat Portage, and also visiting the districts upon the line of the Atlantic and Rainy River Railroad where several hundred men are employed upon construction work.

Further west I visited the Saw Bill District; after completing my work and there being no train running east for 48 hours, I went on to Winnipeg, Man., the better to ascertain the facts of the outbreak of smallpox in that city, returning east on the first train. I remained over a few hours in Port Arthur.

Owing to the fact that smallpox existed in Port Arthur I found all along the railway a condition of alarm which was more particularly noticeable at those places where workmen were daily arriving, departing to or coming from either the railway or the mining camps.

This alarm was greatly increased by a knowledge of the fact that in one place at least—Saw Bill Lake, the disease already existed having been contracted in the town of Port Arthur and doubt existed, as to how far the miners, who stampeded on the exact nature of the disease being ascertained, had carried the infection.

Having ascertained that a medical man was in attendance on the case at the "Hammond Reef," I first directed my attention to the Savanne and Lake Kashaboure District. With the kind assistance of Mr. Brown the agent of Messrs. McKenzie & Mann I was able to prevent workmen going in until I had fully ascertained the condition of the men on the works.

I found the doctor on the Eastern Section had been actively engaged vaccinating but owing to the non-arrival of vaccine the doctor in charge of the Kashaboure Section had not been able to act in this direction. He however commenced the day I was there and has now completed his work as have also the others in charge of the remaining sections. In none of the hospitals were there any infectious cases, a condition of affairs most pleasing to report, and one no doubt largely due to the efficient staff of medical men employed and the good food provided by the firm as also the cleanliness of the camps.

After a most difficult and tedious journey by waggon and canoe I reached the Hammond Reef on Saw Bill Lake where I found Mr. Steele of the Clear Water Company ill with smallpox. He had in attendance Dr. White, Wabigoon, and a professional nurse from Winnipeg. He had contracted the disease from Mr. Whalen, Port Arthur, having been in his house May 6th last, the rash (discreet) appeared 19th or 20th of the month. At the time of my visit the patient was walking about and desquamation was nearly complete I visited Mrs. Steele and found she had been ill some three days and was undoubtedly suffering from the disease but modified very materially by vaccination some three years old and will I am sure make a speedy recovery.

The house used as an hospital was nicely situated and well remote from any other, the strictest quarantine was maintained by both doctor and nurse I left a supply of lymph with Dr. White to re-vaccinate those he had done at the mine.

During the progress of my work I have found the public most anxious to avail themselves of the protection afforded by vaccination and not a few Indians have voluntarily come miles to be vaccinated; in all over seven hundred vaccinations, primary and secondary, have been made.

As regards the outbreak in the City of Winnipeg I have to thank the M. H. O. Dr. Inglis for his courtesy and kindness. On visiting the pest house with him I saw some 13 of the cases who were in various stages of convalescence. Many of them had the disease in

the confluent form, particularly was this the case with the nurses, many of whom had never been vaccinated. An evidence of the necessity for the enforcing of a rule for vaccination among this class, at least every seven years is thus given.

Dr. Inglis is of the opinion that the first case (Finlayson) contracted the disease in Honolulou ; he entered the hospital and was treated for purpura haemorrhagica,—and the certificate of death so read.

One point I noticed in the history of the cases is the fact that in many of them the period of incubation was prolonged to nearly three weeks and in one it was 23 days.

At the time of my visit the disease was confined to those cases in quarantine, and there is no fear of further infection from that quarter.

Upon visiting Port Arthur I found that there were still six cases in hospital with the Pacific hotel under strict quarantine, since Sunday June 5th when the last case was removed to the pest house. There exists some uncertainty as to the number of persons exposed by this patient, and another week must elapse before the local authorities can speak with any degree of certainty on the matter.

In the meantime all precautions are being taken by the local authorities.

All of which is respectfully submitted.

Yours sincerely,

CHAS. A. HODGETTS.

Toronto, June 12th, 1900.

Report of the Committee on Contagious Diseases for the Quarter.

April 26, 1901.

To the Chairman and Members of the Provincial Board of Health :

Gentlemen,—The returns for the months of the quarter ending March 31, indicate that the mortality for the period as compared with 1900 has been notably greater. This seems to have been due rather to general diseases of the respiratory type closely associated with the general prevalence of LaGrippe in January. For instance, February with a rather larger percentage of population reporting in 1900 had 236 deaths this year as compared with 186 last year, while the incomplete returns in for March already show more deaths than in 1900. Fortunately, however, the prevalence of the acute contagious diseases has shown no marked increase over the previous year, except that diphtheria has tended upward in March, but scarlatina has rather declined. The exceptional prevalence of smallpox in New Ontario has not shown any mortality notably affecting the deaths from this class. A circular sent out by the U.S. Marine Hospital Service Bureau in February has received a large number of replies ; but nothing of a statistical nature has yet been published of any special interest. The general prevalence of smallpox shown in the monthly reports from neighboring States has overshadowed all other matters, excepting bubonic plague in San Francisco. The action of the State authorities in bringing pressure on the Marine Hospital Service to suppress information regarding the number of deaths from the plague in that city is creating a feeling of serious alarm. That the disease has been present there for months is now beyond doubt, and that it was for months denied by the civic authorities seems equally evident. The same course of action in regard to smallpox in certain States, towns and, even in Ontario, is not wholly unknown ; but as has often been shown, the results of ineffective steps to deal with contagion have again, as often before, been shown to be the same. The action of your Committee on Epidemics in issuing a circular *re* vaccination, as also one on the diagnosis of smallpox, during the quarter has proved of much value in arousing Local Boards in very many instances to a sense of the danger the Province is at present at face with regarding smallpox. The appearance of the disease in over 50 centres at one time presents a condition probably not exceeded within the period of the Board's existence. The cause of the outbreaks will be more specifically dealt with in a special report, but the bearings of the outbreak on the public welfare cannot be lightly overlooked. At New Orleans, in New York, and at one or two other points a notable increase in deaths is seen during March and there are not wanting evidences of an increase in severity in some very recent cases. The serious side of this is that once let the

disease get beyond municipal control in the presence of a number of centres in each, as it has in Missouri, in Ohio, in Kentucky, in Tennessee, in Kansas, in Minnesota, in Wisconsin, and other States, and the cost of any serious attempt to stay the disease will be found exceptionally great, and even impossible, while an increase in malignancy will soon result in disaster, to which the present generation is almost a stranger. That this is possible, indeed very probable, is found in the fact that in every outbreak in our counties, as in neighboring States, there has been found an alarming number of persons wholly unprotected by vaccination. Amongst the men of the northern lumber camps this has been especially noted in the cases seen in the hospital camp at Sudbury. Apart from the personal interest, the commercial interests of the companies employing large numbers of men can hardly be appreciated by any not brought into immediate contact therewith. Assume that in a great dry-goods house with hundreds of employees, an undiagnosed case has been present, that thousands of buyers have unconsciously been exposed, as has time and again happened in other cases ; or that in a great factory the workmen, breathing the same air, are exposed to a similar case, and we can appreciate the loss of business and panic which follows. On the other hand let employer and employees realize that in vaccination everyone is not only protected against infection introduced amongst them but that further they will thereby protect any customers who visit their establishments, and the public will understand how valuable, even from this low standpoint, vaccination is. What a responsibility rests upon those who agitate against the general vaccination of all children we can learn from the past ; and, unfortunately, it would seem as if we are about to have the lesson repeated. Many Boards approach the matter of general vaccination from a standpoint of expediency, questioning, not its utility, but its necessity, attempting to measure this by the degree of proximity of smallpox cases and assuming that in any small expenditure they will be supported only if the danger be near enough to give them the support of the public. It may be that we require to again have the lesson taught, but we may pray that it be not too severe a one.

This reference naturally introduces the subject of vaccines. Every outbreak brings up the subject of what is normal vaccination, and, unfortunately, the absence of municipal provision for the appointment of public vaccinators has not supplied the younger members of the profession with any correct notions of what vaccination is, either in theory or practice. This has been caused further, in part, because a practitioner when he vaccinates does not insist on having the patient return for evidence of 8th day inspection of its success, in order that he may grant a certificate. Worse, however, than this, the fact has, even in towns where smallpox is present, been developed that medical men in more than one instance have given certificates for successful vaccination where they have never performed the operation, or have given a white powder to be placed on the tongue and have called this vaccination.

In view however of the *severe* and *mild* and other terms which are applied to vaccination it would seem proper that the Board should once more indicate in the light of its experience of years, what the law demands in the matter of vaccination, and of what the highest scientific authorities and clinicians teach.

The Vaccination Act demands that a child shall within three months of birth be taken to the medical practitioner for the purpose of being vaccinated, and the practitioner is required to vaccinate the child. Upon the eighth day following the vaccination the child shall again be taken to the practitioner by whom the operation was performed in order that he may by inspection ascertain the result of the operation. If successful upon inspection the practitioner shall give a certificate to that effect.

Fortunately, in this matter, modern science has developed nothing leading us to the belief that the law of 30 years ago calls for a practice now no longer tenable. Bovine vaccine and glycerinized lymph are capable of producing the old typical clinical phenomena, caused by the use of humanized lymph, and we have a right to claim the following as representing our beliefs in the matter of vaccination and the part it plays as a prophylactic against smallpox.

It is hardly necessary to say that the whole value of vaccination depends upon its ability to protect either against infection with smallpox or to modify the virulence of an attack, should it occur. That such results have followed vaccination, the history of 100 years has proved. These two points in the experience of twenty years having been absolutely demonstrated in hundreds of outbreaks and thousands of cases, the question to

be determined is, upon what factors in vaccination do such satisfactory results depend Briefly, these are :—

1. A normal vaccine, that is, one where the assumed microbe of the disease is actively present.
2. The use of a vaccine when fresh and active.
3. The absence of extraneous microbes in the vaccine.
4. The careful inoculation of patients and subsequent treatment of the wound.

The question arises at once, what is a normal vaccine? In the experience of your committee, it is a lymph which produces a history of evolution of the vesicle exactly as set forth by Prof. T. D. Ackland, one of the officers of the English Royal Commission of 1889-1896 to enquire into alleged injuries due to abnormal vaccinations and which are found in Allbutta' System of Medicine, Vol. 2. Its stages are, (1) Scarification and immediate inflammatory reaction, subsiding within a few hours ; (2) On third or fourth day, pale red papules appearing, which during the next five days, develop into compound vesicles, becoming pustules on the ninth day ; (3) Vesicles distended with lymph and plump at first, and as the lymph thickens, the centre becomes depressed forming a scab and surrounded with a distinctly raised marbled border ; (4) An area of redness and inflammatory thickening of tissue around the pustule of an inch or more in diameter ; (5) A decrease from tenth day of the inflammatory area and a drying of the scab which falls by the twentieth day ; (6) a cicatrix usually with a hard scar centre with rays and foveæ more or less distinct.

The same article gives a table showing variations in the development of the pock, most of which it states however, are slight, as abnormal rapidity or delay in the evolution of the vesicle. In the same work, is another monograph by Dr. M. Copeman, dealing more especially with the morphology, chemistry and preparation of vaccine. He there points out how bovine lymph has in England taken the place of humanized, and then proceeds to speak of glycerinized lymph. He speaks of the practically constant presence of extraneous microbes in lymph, and notes his experiments as early as 1891, which proved that a 50 per cent. solution in water of chemically pure glycerine to one part of vaccine pulp set aside from light for a few weeks removes all saprophytes as well as tubercle bacillus and streptococcus. Thereafter follows the satisfactory statement that in vaccine thus properly produced, " we have then a preparation which while even more efficient, as vaccine, than the original lymph can be produced entirely free from extraneous organisms," and he points out how scientific workers in France, Germany, England and America have borne out these statements. Referring to the operation on the calf, Copeeman points out that on the fourth day the pustule is mature, and that the lymph is then taken and treated, thereby showing that with glycerinized lymph the evolution of the vesicle is the same as with lymph non-glycerinized. It may be further remarked that in the experimental work of Chambon and Menard of the Animal Vaccine Institute, Paris, the history of normal vaccination is the same as that given above. The immunity of bovines and of children and of monkeys thus vaccinated, to revaccination, is not only relative, but for several years practically absolute. Of the protective qualities against exposure to smallpox, of vaccination in the persons of physicians and nurses, it is unnecessary to dilate, as we have personal knowledge of the fact in the case of hundreds during the past twenty years, as well as the protection up to the fourth day by immediate vaccination of exposed persons.

Copeman gives many illustrative examples of the same fact. That in a whole series of cases, with relatively inert vaccine such immunity does not exist against even mild smallpox has been brought to our knowledge in different outbreaks within the last few years, and further, that persons with no cicatrices from a previous vaccination within periods from a month to a year, have been revaccinated with perfect success. Ernest Hart speaking of the necessity for efficient vaccination, pointing out, in a study of recent statistics compared with those of former years, says, " that we are taught a variety of lessons of which the most important is that while infant vaccination affords an almost absolute immunity against smallpox up to ten years of age, to do so it must be efficient." Absolute immunity, he further states, is practically obtained with a re vaccination after ten years. He points out, that the more closely the vaccination of patients in recent epidemics has been studied, the more obvious has it become that a deplorably large proportion of the nominally vaccinated have been most inefficiently vaccinated and are consequently almost

unprotected against smallpox, and says, "So long as medical men in their mistaken good nature are found ready to yield to the ignorance or vanity of applicants for vaccination, and to make only one or perhaps two insignificant insertions of lymph in a child's arm and to certify cases of that kind as successfully vaccinated, so long shall we have to struggle against the fallacies and sophistries of anti-vaccinationists." Asking further how efficient vaccination is to be secured, he states, that the Local Government Board prescribes that public vaccination shall in all ordinary primary cases produce at least five good-sized separate vesicles not less than half an inch in diameter. The total area of vesiculation on the eighth day following the vaccination, should not be less than half a square inch.

In a statistical study by Dr. Thorne Thorne of 13,755 cases in the London Smallpox Hospital in two series, the following results for the second series from 1852-1867, or in 10,661 cases is given :—

	Per cent. of deaths.
Stated to have been vaccinated but with no cicatrix.....	39.4
With 1 cicatrix.....	13 8
" 2 "	7.7
" 3 "	3 0
" 4 "	0.9

He further points out that of 13,755 admitted, vaccination was very defective in 11,172, of whom 1,072 died. Of 1,079 reasonably good, 21 died—and of 1,505 with good normal marks, only 13 died. Such statistics can be duplicated from many sources.

In conclusion it may be stated that we have yet to learn of any facts which can alter the biological, clinical and statistical evidence upon which the Royal Commission of England after seven years of investigations, based its conclusions, which are essentially those set forth in the preceding references, and which in every detail, whether biological, clinical or statistical, are supported by our own experience.

The urgency of the situation demands that this Board makes public its views on a subject which the public have become ignorant or careless of, and that it impress its views in the most positive manner upon local health authorities in all parts of the Province.

All of which is respectfully submitted.

P. H. BRYCE,
J. J. CASSIDY,
W. H. OLDRIGHT.

IV.—REPORT OF AN OUTBREAK OF DIPHTHERIA AND SCARLATINA IN GEORGETOWN.

By P. H. Bryce, M, A., M. D., Secretary.

Toronto, June 27th, 1900.

Mr. Chairman and Members of the Provincial Board of Health :

Gentlemen :—Owing to the request of the active Medical officer Dr. Rae, of Georgetown, and the Local Board of Health, that your Secretary visit Georgetown to advise with the Board as to the measures necessary to deal especially with diphtheria, which had appeared and rapidly spread to some seven families within a fortnight, I visited the town on the 27th of June, and met the Board and a number of town physicians.

The details of the outbreak were entered into, the results showing that the first fatal case was the driver of a delivery waggon, who, it was thought had been sick a day or two while at his work. The case was not at first reported as diphtheria, and not till the fatal result, was the Board in a position to deal with the case. Others rapidly followed ; but some of these it seemed probable must have been exposed at school to some mild case, not diagnosed at all. The continued persistence of scarlatina for several months was also discussed, and the old story of cases not reported by householders, some not being seen by a physician at all, was told ; with the still more common instance of physicians giving certificates long before the 40 days' period from the onset of the disease had arrived. Physicians pointed out how difficult it was to control the children even when houses were

placarded, and the common opinion was expressed that so long as no isolation building was available to which first cases with the nurse should be removed, so long was it to be expected the disease would continue to crop up.

Your Secretary urged this point most strongly, and on motion of the Reeve and Secretary it was decided that a building site be secured, and a small hospital erected thereon. A beautiful site in a grove of pines in the suburbs was visited and decided upon, and the Board was to meet again the same evening.

An interesting illustration of how the disease is spread has since occurred. The Reeve, an active member of the Local Board, has a cottage in Muskoka, and a week or two later went there with his family.

Within a few days of his leaving home, a young child developed the disease in Muskoka. The nature of the disease was not suspected, but fortunately Dr. Bensley of the Biological Department of the University, who was summering in the neighborhood was called in, at once became suspicious, took swabs, and having his microscope diagnosed the disease from slides, and promptly quarantined the whole camp; and the father and child were removed to a camp near Gravenhurst, where a local physician would attend, and so promptly was the whole matter carried out, and disinfection completed, that no second case occurred. It is not often the utility of the microscope in expert hands has been better illustrated.

With 50 or 100 of such expert microscopists spread over the counties of the Province, with power to see complete isolation following diagnosis rapidly executed, the disease would become about as rare as smallpox.

All of which is respectfully submitted.

Your obedient servant,
P. H. BRYCE,
Secretary.

V.—REPORT OF AN OUTBREAK OF DIPHTHERIA IN EASTERN MUSKOKA

By P. H. Bryce M. A. M. D. Secretary.

July 14th, 1900.

To the Chairman and Members of the Provincial Board of Health,

Gentlemen :—After hearing of outbreaks in two parts of this region, your Secretary proceeded on July 12th, to Huntsville. He learned that scarlatina had to some extent been present there during the early summer, and that on the day preceding a fatal result had occurred in one family, which had been quarantined in the house, and the attending physician had reported diphtheria to have been superposed on the scarlatina. Your Secretary with the Acting Medical Health Officer, visited the premises and found the child very ill, the attending physician asserted with diphtheria. Unfortunately while placarding had been done, with quarantine, the isolation from the sick was very imperfect, and the situation demanded removal of the family or the patient if further cases were not to occur. Here again the absence of any house for isolation purposes was a difficulty, and your Secretary urged the removal of the family to a tent on the outskirts of the town. The Board promised to at once take action in the matter, and at latest reports no further deaths had taken place. The constant unpreparedness of Local Boards for dealing with outbreaks in the only efficient manner is more and more forced upon the attention of this Board, and the necessity for some more exact routine methods in our municipalities is increasingly apparent.

On the succeeding day your Secretary proceeded from Bracebridge by livery, and after obtaining the services of the Secretary of the Local Board, proceeded into Watt and Stephenson Townships, where was a series of six families in which a number of cases had appeared and two deaths had occurred. It was with unusual pleasure that your Secretary found how prompt and thorough had been the measures adopted for limiting the disease in one of the newer districts. Each family had been quarantined, with inspectors appointed to keep them in and supply them with all necessaries. When possible separate build-

ings were being utilized for the sick and suspects. The full time limit of four weeks was being carried out for isolation of the sick, and no second set of cases had been reported.

The origin of the disease was most interesting and instructive. At the saw-mills on Skeleton Lake a number of river-drivers had collected who had been engaged in driving from Skeleton Lake. It appears that from some unknown source contagion had been brought to a house in Caldwell Township to the north of the lake from which one of the lumberman came and from which three families had been infected, one death occurring. This man, going back and forth to his house, apparently became infected, altthough never sickening, or else carried infection in his clothing. He was in the habit of petting a child at the mill-house, who took the disease. When this outbreak occurred the men dispersed to their homes, carrying the disease to their families in four or five other houses This remarkable result not only illustrates the relative immunity of strong grown persons, but strikingly illustrates the fact that infection to vulnerable children seems readily borne in the breath of immune persons, or those so slightly sick as not to be suspected of bearing the disease. No further cases have been reported, precautions being urged with regard to maintaining a full period of quarantine and to disinfecting, under the supervision of the assiduous and efficient medical officer, all exposed places. The importance and value of such work will be appreciated, when it is understood that both Watt and Caldwell Townships border on the lakes where tourists congregate in thousands, and with whom the suspicion of danger causes a migration, a matter of a few hours. The absence of any outbreaks of contagious disease in the Muskoka Health Resort area, continues to be a source of extreme gratification to this Board, which has reason to think that the systematic guarding of the lakes from pollution has been a chief instrument in this immunity, while the activity of the Local Board well illustrates how much can be done when the financial aspect presents itself as strongly as it does to those. whose summer business depends for its success so largely upon maintaining a reputation for freedom from contagious disease.

During the visit of your Secretary to Bracebridge he likewise conferred with the Mayor and Council on the proposed survey of the town, ordered by the Council with a view to instituting a general sewerage system. Remembering that the Muskoka River flows to the Muskoka Lakes, the town has fully impressed upon it that any sewerage system will require to be so constructed that proper sewerage filtration may be carried on ; and the energetic Town Council seems fully resolved to proceed along the most modern lines for its accomplishment.

Your Secretary further inspected the sewage disposal works advised by him last year, which have been carried out, at Beaumaris, Windermere, Rosseau, Maplehurst, Port Sandfield, Port Carling and Port Cockburn ; in most instances with a thoroughness which is most admirable, and which makes the summer hotels of the district models of what may be done, if they have pointed out to them the methods, and are as anxious as their proprietors have been, to maintain unpolluted water-supplies. The smaller hotels have also improved their methods with regard to the disposal of kitchen refuse and the careful management of dry earth closets.

All of which is respectfully submitted,

(Signed) P. H. BRYCE,
Secretary of the Board.

CIRCULAR TO PHYSICIANS AND LOCAL BOARDS OF HEALTH ON THE PREVENTION OF TUBERCULOSIS.

TORONTO, June 15th, 1900.

To Physicians and Members of Local Boards of Health :

GENTLEMEN,—The Provincial Board of Health at its last regular meeting instructed the Committee on Epidemics to issue a circular containing, among other instructions, a copy, as follows, of the resolutions dealing with the problem of limiting the spread of tuberculosis, and especially of that more prevalent and contagious form of it popularly known as consumption :—

Moved by Dr. Cassidy, Seconded by Dr. Bryce,

1st. That as Tuberculosis is a contagious and infectious disease, all inmates of Provincial Institutions who are affected with this disease should be isolated in wards set apart for such patients, and not be permitted to associate generally with other inmates.

2nd. That when rooms or wards, which have been occupied by consumptive patients, become vacant, they should be disinfected according to the methods set forth by the Provincial Board of Health in the pamphlet issued by it containing rules for checking the spread of contagious disease.

3rd. That an individual, affected with tuberculosis and living in a private family, should be isolated as much as possible from other members of the household, especial care being taken in the destruction of his expectorations.

4th. That when the room occupied by such patient becomes vacant, it should be thoroughly disinfected, and, as a matter of prevention, the whole dwelling should be disinfected according to the instructions in the pamphlet regarding disinfection issued by the Provincial Board of Health, and that such other precautions be taken as are provided in Section 101 of the Public Health Act (1897).

5th. That the Local Boards of Health be urged to establish rules for the notification of cases of tuberculosis to the Medical Health Officer or to the Secretary of the Local Board of the municipality.

It is apparent from the above resolutions that Local Boards of Health, by putting into force the recommendations contained therein, are expected to place themselves in the position to know not only the number of cases of consumptives in the municipality over which they have jurisdiction, but also to supply them, through the physicians whose duty it is to make notification of the occurrence of such cases, with short printed rules explanatory of the routine measures which should be adopted for the benefit of a consumptive patient, and, which is in one sense still more important for the safety of the members of the household in which he may be domiciled. The rules referred to should obviously include directions for :—

1. Receiving all expectorated matter and nasal discharges upon handkerchiefs of paper or upon cloths, which can and should be immediately destroyed.

2. The frequent disinfection of all body linen, of all bed clothing and of all woven fabrics exposed to infection through the patient.

3. The dispensing, as far as possible, with the employment of curtains in the room or rooms occupied by the patient, and substituting linoleum or hardwood floors for carpets.

4. The wiping of floors, wainscotting and walls with cloths dampened in some disinfectant solution, and the doing away with the dangerous practice of stirring up dust by sweeping.

5. The keeping of patients, as much as possible, in rooms specially arranged for them, which should, when at all possible, face the south in order to get the benefit of sunlight and its germicidal effects.

6. The providing of ventilation such as will at all times permit the patient to breathe pure air.

7. A thorough disinfection from time to time of any room or rooms used by the sick, and also the thorongh disinfection, under the supervision of the Local Board of Health of any vacated house previously occupied by a consumptive patient before it be again occupied.

Such notification must in no case be understood to mean that Local Boards of Health are to make public the existence of the cases reported, or that houses are to be placarded or the patients isolated ; but to enable them to assist householders to take steps to limit the danger of infection, and to have houses, once occupied by consumptives, thoroughly disinfected before other families are permitted to occupy them.

In view of the very great prevalence of the disease, of its chronic character, of the generally unsuccessful results of home treatment, and of the danger of the infection reaching others, the Legislature has passed the following Act to encourage and assist municipalities in giving effective aid to persons affected with tuberculosis.

The objects of the Act and the methods by which its provisions are to be made operative are set forth therein so plainly that further explanations are unnecessary. As the Public Health Act, Sections 43 to 46, already contains provisions for the organization of County or District Boards of Health and the appointment of County Health Officers,

it will be plain that this Act similarly provides for co-operation on the part of Municipal Councils and Local Boards of Health in dealing with a disease not dealt with readily by smaller individual municipalities. This co-operation can only be brought about by members of Local Boards of Health, physicians and the charitably disposed uniting to urge action in the direction indicated in the Act relating to Sanatoria, recently passed by the Legislature.

(Signed) J. J. CASSIDY,
P. H. BRYCE,
WM. OLDRIGHT,

Members of Standing Committee on Epidemics, Provincial Board of Health.

AN ACT RESPECTING MUNICIPAL SANATORIA FOR CONSUMPTIVES.

(*Being Cap. 57 Ont. Stat. 1900*)

HER MAJESTY, by and with the advice and consent of the Legislative Assembly of the Province of Ontario, enacts as follows :—

Establishment of sanatoria by municipalities

1. Subject to the provisions of this Act, any municipality, or any two or more municipalities in this Province may establish a sanatorium for the treatment of consumptives, and may for that purpose acquire lands and interests therein and erect and equip buildings and other improvements thereon, and do such other things from time to time as may be necessary to complete, maintain and operate such sanatorium and carry out the objects and requirements of this Act.

Joint action by two or more municipalities.

2 Any municipality may procure or join another or others in procuring plans of proposed buildings and improvements for a sanatorium and estimate of the cost and such other information upon the subject (including a proposed site) as may seem desirable, and any two or more municipalities may confer together, by such representatives as their councils may appoint, with a view to agreeing upon a basis for establishing a joint sanatorium, and they may enter into a provisional agreement respecting the same.

Approval of plans, site, etc., by Provincial Secretary.

3. If one municipality only is establishing the sanatorium, a provisional by-law respecting the same shall be passed, and the plans, estimates, and the said provisional by-law, or said provisional agreement, as the case may be, and the proposed site (which may be anywhere within the Province) shall be submitted to the Provincial Secretary, who shall submit the same to the Provincial Board of Health for report. Upon receiving the report of the Board of Health, the Provincial Secretary may approve of the plans, estimates, provisional by-law or agreement, as the case may be, and the site ; subject, however, to such modifications and alterations as he may think best.

Provided, that if a proposed site be not within the municipality or one of the municipalities proposing to establish the sanatorium, the Provincial Secretary shall, before approving of such site, transmit by post to the head of the municipality in which the proposed site is situate, notice of the application for approval for such remarks thereon as such municipality may desire to submit.

By-laws for raising necessary funds.

4. Upon the approval of the Provincial Secretary of the plans, estimates, etc , the council of the municipality, or of each of the municipalities concerned, as the case may be, may from time to time pass by-laws to raise the moneys proposed to be paid or contributed by such municipality in respect of the original cost of the sanatorium, or of the cost of extensions, alterations and additions, and to issue debentures therefor. The provisions of *The Municipal Act* respecting by-laws creating debts and voting thereon by electors, and all other provisions of the said Act applicable thereto, shall apply.

By-laws for establishment of sanatoria.

5. Upon the said by-law or by-laws being passed as in the preceding section is provided for, the municipality or municipalities concerned may pass by-laws to establish the sanatorium, or to enter into the agreement to establish a joint sanatorium, as the case may be, in accordance with the approval given by the Provincial Secretary above provided for; and, upon by-laws being passed to raise the moneys proposed to be paid or contributed in respect of the cost of extensions, alterations and additions, the approval by the Provincial Secretary of the plans thereof shall be obtained in the same way as provided for with respect to approval of the original plans, and upon such approval being given, the extensions, additions and alterations may be proceeded with by the municipality or municipalities concerned.

Board trustees.

6. The by-law or agreement establishing a sanatorium or a joint sanatorium, as the case may be, shall provide for the appointment of a board of not less than five trustees to take charge of and manage the same. The qualifications, term of office, which shall not exceed five years, and quorum of the trustees, and the manner of appointing their successors or of filling vacancies, shall be declared in the said by-law or agreement, and the trustees appointed from time to time shall hold office until their successors are appointed. The agreement for a joint sanatorium shall state the proportion of the yearly cost of maintenance, operations and repairs to be borne by each municipality. The said by-law or agreement may also define the terms and conditions on which patients may be admitted into the sanatorium, and contain such other particulars as may be thought best.

Trustees powers and duties.

7. The trustees and their successors shall be a corporation under the name of "The Trustees of (here name the sanatorium)," and they shall be free from all personal responsibility for acts done within the scope of their authority as such trustees. They shall have such powers and duties as are conferred by this Act, and such other powers and duties not inconsistent with this Act as may be conferred upon them by the said by-law or agreement as the case may be, or by any future by-law or agreement passed or entered into with the approval of the Provincial Secretary.

Chairman and vice-chairman

8. The trustees shall elect yearly one of their number to be chairman of the board, to hold office for one year and thereafter until his successor as chairman is elected. A vice-chairman may also be similarly elected.

Property vested in trustees.

9 The lands and personal property acquired from time to time for the sanatorium shall be conveyed to and vested in the trustees for the uses and purposes thereof, and if proceedings for the expropriation of the site of a joint sanatorium become necessary such proceedings shall be taken on behalf of the municipalities concerned in the name of the trustees, and for the purpose of such expropriation and the proceedings thereon and connected therewith the provisions of *The Municipal Act* shall apply, and the trustees shall have with respect thereto all the rights and powers of the council of a city or town, and the proceedings shall be the same, as far as applicable, as if they were taken by the council of a city or town.

Property, etc. to be under control of trustees.

10. The trustees shall, subject to the terms of the by-laws or agreements relating thereto, and to regulations made by the Lieutenant-Governor in Council as hereinafter provided for, have the control and management of the erection of the buildings and improvements and of the operations and maintenance of the sanatorium and of all matters and things connected therewith or relating thereto, and may from time to time make rules and regulations respecting the same not inconsistent with the terms of the said by-laws or agreements or of this Act, or of regulations made, or to be made, by the Lieutenant-Governor in Council hereunder.

11. The Lieutenant-Governor in Council may from time to time make regulations respecting the inspection and management of the sanatorium, and such regulations shall take effect and be complied with, notwithstanding the terms of any regulations made by the trustees, which, so far as inconsistent

with those made by the Lieutenant-Governor in Council, shall be and become inoperative.

Grant from province towards establishment.

12 The Lieutenant-Governor in Council may grant to the trustees of any sanatorium one fifth of the cost of the site, buildings, improvements and equipment, extensions, additions and alterations, provided such grant shall not exceed with respect to any one sanatorium the sum of $4,000 in all. All sums granted hereunder are to be paid out of the consolidated revenue of this Province.

Aid to maintenance from Province.

13. The Lieutenant-Governor in Council may, out of any moneys voted by the Legislature for the purpose, pay to the trustees of any sanatorium, towards the maintenance and support thereof, a sum at the rate of $1.50 per week for each patient therein from time to time, and the treasurer of the municipality (not having established, or not being a party to the agreement establishing the sanitorium) in which a patient was domiciled at the time of admission, and who has been admitted with the approval of the council of such municipality, shall, out of the moneys of the municipality, pay to the trustees a sum at the rate of $1.50 per week for each patient.

Annual rates.

14. The municipality or municipalities establishing a sanatorium or joint sanatorium, as the case may be, shall, with the yearly rates and in the proportions provided for in the agreement, levy such moneys as may be required to meet the balance of the cost of maintenance, operations and repairs of the sanatorium for the year, and shall from time to time pay over the same to the trustees. Provided always that nothing herein contained shall authorize the trustees to incur any liability or expenditure not authorized by the terms of the by-law or agreement establishing the sanatorium or by by-law or resolution of the municipalities concerned.

Proviso.

Proviso.

15. Nothing in this Act contained shall prevent the municipality or municipalities establishing a sanatorium from closing the same at any time or times, either temporarily or permanently.

Proviso.

16. If a sanatorium be closed for a period of nine consecutive months the Legislature may make provision for the sale or other disposition of the sanatorium and the properties and effects thereof and for the application of the proceeds, and may make such other provisions relating thereto as to it may seem just.

Exemption from taxation.

17. The real and personal properties acquired for a sanatorium and vested in the trustees shall, so long as the same are so vested, be exempt from all municipal or other taxation.

Accepting donations.

18. The trustees may accept from any person or corporation donations of property, real or personal, whether by will or otherwise, for the uses of the sanatorium, and may apply the same in accordance with the terms of the donations.

VI. REPORT ON THE APPEARANCE OF ANTHRAX ON THE FLATS AT WHITBY.

By P. H. Bryce, M.A., M.D., Secretary.

August 14, 1900.

Mr. Chairman and Members of the Provincial Board of Health:

Gentlemen:—Some two weeks ago complaint came from Whitby that some cattle had suddenly died while pasturing in a field below the outlet of several sewers into the bed of a creek of some size during spring freshets, but which is dry during summer. Of these cattle three were found dead in the field, one recovered, and one died 24 hours after being seen. They were the property of Mr. Sleep, and the deaths took place early in July.

About a fortnight ago one died in a neighboring field next below on the same creek, and another about July 5th, these being the property of Atler Brant.

It was naturally thought at first that the cattle had died of poison, as for many past years the flats had been used for pasturage without bad results.

As, however, the tannery now in operation had been opened only a year or two, and leads into a sewer discharging into the creek, and as it was only last year the Ladies' College authorities had extended to the creek an overflow tile from their cess-pool, it was thought that the sewage, which stood in pools in the field near the sewer outlets, might be the cause of the sudden deaths.

Suspecting, however, from the sudden character of the deaths, that anthrax was the cause, I requested the local authorities to send fragments of liver and spleen from the last animal dead. This was done, the body, however, having been buried a week or more. Cultivation showed the presence of putrefaction bacteria, but nothing definite as to anthrax. When, however, the last two died on the Brant farm, specimens of the whole liver and spleen were sent promptly. Experiment has proved the suspicion as both in the blood itself, in cultures of it, and in guinea-pig experiments, and the blood from inoculated animals, the typical bacilli of anthrax have been found.

On August the 10th I visited Whitby, and in company with the Mayor, Health Officer, Members of Council, Board of Health and parties interested, visited the infected area, the tannery, etc.

Naturally, suspicion was directed to the refuse from the tannery, but as it is a green-hide tannery, *i.e.*, only handles Canadian fresh hides, while all are treated by the lime process, a careful inspection of the tannery and the methods adopted, make it extremely difficult to connect the tannery with the outbreak. Of course there is no apparent or possible connection between anthrax and the sewage from the college.

In view, however, of the disposal of sewage both from the college drain and the town sewer being illegal, as carried out, your Secretary indicated to the President of the College his duty under the circumstances, as well as a means whereby, with septic tank and sub-surface drainage, he can dispose of the sewage of 200 persons without polluting any stream.

The Manager of the tannery, which is the chief polluting agency on the town drain, had also pointed out to him that polluting the stream with animal refuse from a tannery, was clearly an infringement of the Statute, and he promised to adopt such settling tanks and filters as would be adequate for the removal by filtration of pollution.

The Mayor and town authorities have actively taken up the matter of preventing further pollution from either cause, and while the source of the anthrax infection will probably remain a mystery, the fencing off of the course of the stream and the flats, and cultivating grain in them for several years before grazing is allowed again, seems an obvious necessity.

I would respectfully recommend the adoption of the report.

Your obedient servant,

(Signed.) P. H. BRYCE,
Secretary.

VII.—REPORT ON THE OUTBREAK OF TYPHOID IN WALLACETOWN.

By P. H. Bryce, M. A., M. D., Secretary.

Toronto, Oct. 15th, 1900.

To the Chairman and Members of the Provincial Board of Health :

Gentlemen :—In consequence of reports of the presence of typhoid fever in Wallacetown in Elgin County, your Secretary visited the old village situated on the Talbot Road, and found that a series of cases had followed the use of water from certain wells. Similar outbreaks had occurred in past years.

It was found on investigation that the wells of the village are shallow, from 8 to 14 feet ; that the lots are small and that in every case there were sources of pollution close to the several wells implicated. The upper soil being sandy, made soakage from polluted

sources easy, while, as has been observed frequently by your Secretary, the temperature of shallow wells in the later summer months gives an opportunity for the development of the typhoid germ.

The analysis of the water from several wells indicates the presence of animal contamination.

Your Secretary after examining the premises where the several cases had occurred, suggested .—

1st. That the use of water from the several wells be strictly prevented.

2nd. That during the warm season the people be advised to boil the drinking water.

3rd. That new sites be selected for wells, situated at safe distances from local sources of pollution.

4th. That driven wells be put down, whereby pollution by way of the top becomes impossible, and by which the ground water in the well is prevented from rising in temperature beyond the normal 49° to 50° F.

The latter recommendation has been made from experience obtained in several parts of the country, notably the Thamesville district where the subterranean water similarly lies near the surface, but where for years a perforated pipe has been used, driven with a point covered with a fine brass gauze to prevent the ingress of sand.

An interesting fact was learned, that in the neighboring new village of Dutton, on the railway, some three miles to the north of Wallacetown, typhoid did not prevail, there being a more or less impervious soil on top of the water-bearing stratum. This difference in districts in the prevalence of typhoid according to the arrangement of permeable and impermeable soils, has been noticed in different parts of the country for years, and associated with the question of the depth of the ground water supplies many interesting points in connection with the biology of the typhoid germ.

The report is submitted to your Board for consideration, with the recommendation that it be adopted.

Your obedient servant,
(Signed) P. H. BRYCE,
Secretary.

VII.—REPORT ON THE SANITARY CONDITION OF AMHERSTBURG SEWERS.

By P. H. Bryce, M. A., M. D., Secretary.

Toronto, Aug. 12th, 1900.

Mr. Chairman and Members of the Provincial Board of Health:

Gentlemen :—Your Secretary begs to report upon the results of an examination of several complaints made last year and in 1900, regarding the sanitary conditions of Amhersburg, dependent chiefly on the absence of any regular sewerage system, and the consequent presence in a section of the town of private sewers, discharging either into the river above the intake of the waterworks, or into open ditches or old board drains.

It is unnecessary to enter into full details as to the streets on which I found such conditions prevailing.

Having met the Mayor and Members of the Board of Health and Council, an inspection of various sections of the town was made. To understand the situation readily, it may be stated that the town is situated along the river below a bend of the shore, which causes the current to flow close to the Canadian side between it and Bois Blanc Island. The water pipe which is carried some 200 ft. from shore into the channel is in a satisfactory place, but it is inevitable that a certain amount of pollution from local drains above will take place, and that a certain permanent pollution is inevitable, especially owing to the fact that a fleet of steamers calculated at one in every five minutes, passes up and down the river, and in the hot weather thousands of excursionists are brought down daily to the park on Bois Blanc. It is estimated that during the day 10,000 to 15,000 persons are on vessels between Detroit and Amherstburg. The tonnage being greater than on any other river in the world, it is apparent that the summer pollution of the stream will

annually increase ; and that as has been shown by increasing outbreaks of typhoid fever during the past two years, some measures for permanently protecting the water supply must be adopted. The matter was thoroughly discussed at a meeting with the authorities, and your Secretary pointed out that under section 30 of the Public Health Act, the Board was empowered to direct an improvement in the means for securing a good water supply.

The first thing to do was to construct a local sewer in the street parallel to the river, and above the water works, which would receive the sewage from all the lateral streets of that section This, indeed, the Local Board of Health has already by resolution requested the Council to construct, and the Council were about to take action under a resolution adopted to construct a sewer on sanitary grounds as a local improvement.

The second point demanded by the situation, is the installation of two of the smaller mechanical filters, such as are so successful in St. Thomas and Chatham, by which not only the clay of the river in flood will be removed, but the much more important thing, the bacterial impurities, the apparent cause of enteric and diarrhoeal diseases prevented.

3rd. The necessity for the removal of old private box drains in other streets, and the construction of new tile sewers with proper connections, and the inspection of house connections in other streets where sewers were built for cellar drainage, but now used for water closets and sinks, was also urged as a prime necessity to prevent entrance of sewer gas through cellar drains or old box drains.

4th. The adoption of a plumbing By-law, under which all house plumbing and drainage would be carried out under inspection.

5th. The general extension of sewers on the more thickly settled streets, on some of which owing to the retentive nature of the level soil, the house cellars are continuously damp, and in wet weather often flooded with water.

Apart from the immediate well-being of the citizens, such broad methods of dealing with the sanitary problem are especially desirable and necessary, since the peculiarly fine situation of the old historic town at the mouth of the river, where the banks are relatively high, and the neighbouring splendid park of Bois Blanc, place Amherstburg in the position of becoming one of the most desirable summer resorts on the Detroit River. At this point the river rapidly widens into the lake, and the westerly breezes blowing over a large area of Lake Erie, supply both a freshness and coolness not equalled until the St. Clair widens into Lake Huron.

Your Secretary likewise spent some of this time with the School trustee Board and went fully into the question of the adoption of a modern system of ventilation and heating of the Central Public School, which if adopted, will make it one of the best heated and ventilated buildings in the Province.

The report is presented for the consideration of the Board, with a recommendation that it be adopted.

Your obedient servant,
(Signed) P. H. BRYCE,
Secretary.

IX.—REPORT ON THE DRAINAGE OF THE VILLAGE OF COBDEN.

By P. H. Bryce, M.A., M.D., Secretary.

Toronto, Oct. 15th, 1900.

Mr. Chairman and Members of the Provincial Board of Health:

Gentlemen :—Owing to requests repeated at different times, your Secretary, while at Ottawa, visited Cobden, a small town some 20 miles north of Renfrew, and met the Local Board and several members of the Council regarding the drainage of the town

The village is not incorporated and is situated in the township of Ross, and a difference of opinion has existed as to the duty of the Municipal Council to supply proper drainage for the village, which lies in somewhat of a basin on a heavy clay. The C. P. Railway passing through the village holds back the water from the west part of the village and floods cellars and makes roads impassable in spring time.

There proved on investigation, however, to be a natural drainage area southeasterly toward a lake at the east of the village which only requires to be utilized for a main sewer in order to relieve the village of many difficulties now experienced.

The powers of the Municipal Act for making local improvements on a local assessment basis were pointed out, and your Secretary indicated the several possible methods of procedure under the Act.

1st. It was urged that the Township Council by resolution engage an engineer to make a survey plan and report on what is necessary for drainage in the several sections of the town.

2nd. That then by petition or by a resolution of the Local Board of Health that certain sewers be constructed as sanitary necessities, it would be possible to have the main sewer built, and such laterals as are immediately demanded by the situation on the local improvement plan.

The village is a large shipping centre for cattle and grain for a large area of fertile country, and there seems every reason to believe that with a waterworks supply cheaply constructed, and local drainage instituted, the village would attract, from its favorable business situation, an increased population.

It is recommended that a copy of this report be forwarded to the Municipal Council, urging that action be taken along the lines indicated.

All of which is respectfully submitted.

(Signed.) P. H. BRYCE,
Secretary.

X.—REPORT ON DEFECTIVE SEWERAGE AT BARRIE.

By P. H. Bryce, M.A., M.D., Secretary.

August 12th, 1900.

Mr. Chairman and Members of the Provincial Board of Health:

Gentlemen:—On complaint through a firm of Solicitors under section 72 of the Act, I visited Barrie on July 31st, and in company with a representative of the Local Board and the several complainants, went over the area complained of.

On examination it appeared that two causes of complaint existed.

1st. The existence of a small sewer constructed along the side of a block in the main street leading to an outlet through a wooden sewer, and serving for the house sewage of several hotels and other large buildings. In addition, however, a gutter grating has been put in near the head, presumably to supply a means for street drainage, and possibly too a means for flushing the sewer.

To this sewer there were further carried under the Queen's Hotel two sewers connected with manholes or gulleys in the yard behind to collect and carry off the large amount of storm drainage collecting in the hotel yard, owing to the fact that towards it ran the drainage from the steep street and hill to the north of it, and the water from the roofs of a large stable and a number of stores.

The second cause of complaint was, that from a lane to the north of the hotel where the storm water was in fact allowed to run down to the hotel yards, it having no other way of escape.

The complaint arose from the flooding of the cellars of several buildings on front street, first during the spring freshet; the rush from the street to the east of the hotel apparently being together with wash from the yards too great for the capacity of the sewer, or that some obstruction existed as from gravel and debris carried into the sewer.

As an opening made in the wooden drain toward the outlet had failed to relieve the soakage into the Queen's Hotel cellar, the presence of an obstruction below this point seemed beyond question.

Recommendations.—The following recommendations were made:—

1st. Make an opening below the street grating to the sewer, and endeavor by a head of water to force the obstruction, and if not successful, to open at another point somewhat further down, and so on until the obstruction was found and removed.

2nd. To close up the street grating to prevent the ingress of storm water, as the capacity of the sewer is not great enough; and was not intended to carry gravel and other debris brought down during the flood from the hillside.

3rd. To build from the lane which carries water to the hotel yards, a paved gutter of such grade and area as will carry the water to a tile drain at the east end of the lane, thence to the gutter of the street to the east.

4th. Cause all the roof water from the several buildings to be discharged in proper eave pipes and carriers therefrom, to the street gutters or sewers on their respective streets

The whole matter as affecting the health of householders, is one which comes directly under the duties of the Local Board of Health, and I would recommend that a copy of this report be forwarded to the same with instructions under section 29, cap. 248, to take such steps, if not already carried out, as will remedy the nuisance existing.

I have the honor to be,
Your obedient servant,

(Signed) P. H. BRYCE,
Secretary.

XI.—REPORT ON SANITARY INSPECTION OF AURORA.

By P. H. Bryce, M.A., M.D., Secretary.

August, 1st, 1900.

Mr. Chairman and Members of the Provincial Board of Health:

Gentlemen,—Having been requested by the Local Board of Health of Aurora to visit the town and advise with them as to a series of insanitary conditions arising from the absence of a sewerage system. I visited the town and in company with the Mayor and members of the Local Board of Health, spent some hours in inspecting and advising as to methods for abating nuisances. The chief evils exist in the two water courses flowing together below the town, and into which drainage from private houses, a cheese factory, hotels, and a tannery, all flow. The character of the nuisance at different points will be understood, and your Secretary advised in most instances, individual or collective action for disposing of the sewage by the septic tank method combined with sub-surface tile filtration.

The general availability of this method is becoming yearly more manifest, and in several instances now it has been made available for the wastes from cheese factories. Perhaps the most difficult case to deal with is that of tanneries where the washings from the several vats containing hair, fleshings and lime, continue to make a heavy material which obstructs ordinary filter materials. The methods which have been advised as most likely to meet this, are that of the septic tank for receiving all wastes, and from which the overflow is carried to an artificially prepared filter bed of gravel and sand, and still better an upper layer of coke. By this method it becomes possible to regularly remove from the surface of the bed the deposit, which soon clogs the filter, while the presence of lime undoubtedly tends to delay microbic activity. In the green-hide tanneries the work can, however, be carried out without serious expense if given regular attention. The systematic carting of deposits from lime vats and fleshings to be ploughed under as manure, serve to remove from tanneries an unenviable reputation as creating serious effluvium nuisances.

An equally serious difficulty exists at Aurora, where the waters of a small creek are utilized as a public supply, in fact for domestic use. No attempt has hitherto been made to protect the stream above from pollution by cattle and poultry, and on it within a mile of the source one serious evil in the shape of a shallow pond thus polluted, exists. Your Secretary advised the Board as to its powers to prevent such nuisances being committed on the source of water supply, under section 70 of the Statute; but in view of the exis-

tence of a splendid series of streams in another valley, flowing near to the town, it was suggested that the more satisfactory method will be to secure the ground around the head springs, and by a series of tiles with open joints to lead the water to a pumping well at a convenient point near the town, and allow the surplus water to be utilized for ponding, with a view, owing to the character of the valley, of making an artificial lake.

The progressive character of Aurora, with its several industries makes it especially desirable that this beautiful town on the Oak Ridges, should by such modern improvements add still more to its attractions.

Your Secretary respectfully recommends the adoption of this report.

(Signed) P. H. BRYCE,
Secretary.

XII.—REPORT ON EXTENSION OF PORT HOPE WATERWORKS AND SEWERS.

By P. H. Bryce, M. A., M. D., Secretary.

August 13th, 1900.

Mr. Chairman and Gentlemen of the Provincial Board of Health:

Gentlemen:—Your Secretary at the request of the Local Board of Health and Water Commissioners, visited Port Hope on Aug. 11th, and in company with the authorities inspected the routes of several proposed new sewers, leading to Smith's creek, which is at present the sewage outlet, it being a rapid stream.

Difficulties arising from discharging on or through private property were discussed, and the proposed points of discharge in deep water considered. Other old wooden drains sources of local nuisance were examined, and action advised for replacing them by new sewers. The steep gradients create a question of some difficulty in construction, which demand better advice than the merely local plan hitherto adopted, there being no town engineer. There has not hitherto been any regular inspection of house plumbing or connections, owing to the fact that the most of the sewers put in have been permitted by the Council, but not paid for by them or constructed as local improvements.

The By-law at present attached to the Public Health Act should guide, or such modification of it as the Council and Board may determine, and it remains for this Board to decide whether it should approve of the further continuation of sewers in Port Hope by methods which have hitherto existed.

Regarding the plan herewith submitted for sewerage on North street there is little to say except that it is proposed to have it constructed by private parties as in other instances; but the interests of public health would seem to demand that it be approved of subject to the proviso that it be constructed under the supervision of the Local Board of Health as provided for in Schedule "B" of the Act, now in force in Port Hope.

The question of enlarging the filter basins in the gravel bank was examined This source which this Board insisted should be adopted rather than a pipe into the lake, has proved remarkably successful, and the town is desirous of still extending its usefulness by another basin, and by constructing a much larger stand pipe. It is proposed to construct one of 200,000 gallon capacity, and as the water supply will be from the same source as hitherto, it gives your Secretary much pleasure to recommend this report approving of the extension of the waterworks and of the sewerage system, with the proviso that it be done under the supervision provided for in Schedule "B" of the Public Health Act.

Provided further, that if at any time the sewers built as separate or private sewers prove unsatisfactory, that the Provincial Board may exercise its authority to have the whole system remodelled to meet the sanitary needs of the town.

All of which is respectfully submitted.

Your obedient servant,
(Signed) P. H. BRYCE,
Secretary.

XIII.—REPORT ON DELHI CANNERY.

By. P. H. Bryce, M.A., M.D., Secretary.

Toronto, Oct. 5th, 1900

Dr. R. B. Wells, Medical Health Officer, Delhi, Ont.

Dear Sir,—In consequence of the several communications forwarded to the Provincial Board of Health regarding an alleged unsanitory condition in connection with the refuse from the factory of the Delhi Canning Co. I was instructed to visit the premises and did so in company with your representative, Dr. Revell, on September 28th. In company with the manager, Mr. Stroat, we examined the factory, and were much pleased with the splendid appliances for carrying on the business in all its branches. To know that such a factory could be kept going with raw products from May to October was an agreeable surprise, and suggested an energy on the part of the Company which is unusual in this class of industry. With such an output as was apparent from the large storehouses for the manufactured goods, it was apparent that the refuse from the various fruits and vegetables must be large, and that the disposition of such during the long hot season must prove a matter of some consequence both to the Company and the public. When fresh it is good food, but when decomposed it is poor food, and gives rise to fermentation products which may create a serious nuisance.

It is apparent then that some systematic method of dealing with the refuse when fresh must be adopted.

The method adopted this year of having the refuse carried out and spread over the hill-side to be eaten or trampled upon and into the soil does not economize the food, and is sure to create a nuisance, quite apart from the effluvium nuisance caused by the presence of a large number of pigs, if fed in proximity to residences The extent of the area where the pigs are fed is so familiar to your Local Board that I need not refer to it, or to the many tons of corn cobs which are lying along side the large stables.

As the nuisance is one which will recur annually, if such conditions as have existed in the past are continued, I would suggest that the Local Board of Health instruct the Company as follows :—

1st. To secure a piece of sandy soil several hundred yards from the nearest residence, to which all decomposable refuse not eaten by the animals in the stables will be taken when fresh.

2nd. If there fed to hogs, the ground where the refuse is thrown should be turned over every few days, and the feeding done on a fresh piece of land. Thus, nuisance is prevented, and the uneaten refuse becomes a fertilizer.

3rd. All refuse not fed should be regularly hauled away and ploughed under as manure before it decomposes.

With regard to the premises at present I have to request the Local Board to direct the removal of the pigs from their present feeding ground, and to have the decomposing refuse removed or covered within such time as appears to the Board reasonable.

As the feeding of pigs as an industry is a business to which section 72 of the Public Health Act is applicable, the Board should in each succeeding year give permit for carrying it on, under conditions which will prevent the creation of a nuisance.

I have the honor to be,
Your obedient servant,
Secretary.

XIV.—REPORT ON KNACKERY IN NEPEAN TOWNSHIP.

By P. H. Bryce, M.A., M.D., Secretary.

October 15th, 1900.

To the Chairman and Members of the Provincial Board of Health :

Gentlemen,—In consequence of a complaint from the Medical Health Officer of Ottawa, that a Knackery situated near the Ottawa River in the neighboring municipality of Hintonburg, was likely to prove a danger to the water supply of the city, your Secretary took advantage of his visit to Ottawa to investigate the cause of complaint.

The Knackery of————was found situated on low ground several hundred yards from the river bank, and to have the drainage from it directed towards a swamp grown up with willows and grass, in which the drainage gradually soaks away; the open drain and swamp near the building creating, however, an effluvium nuisance, increased by the organic refuse and skins spread out on a platform to dry after the fat had been rendered, and the flesh had been removed.

Within a short distance of the Knackery was located a slaughter house, with no observed conveniences for drainage by which an effluvium nuisance might be prevented.

Residents of houses situated within several hundred feet complain of the effluvium nuisance caused by these two places, and urge that steps be taken to abate the nuisances complained of.

As has been observed in all this class of effluvium nuisances, the causes of effluvia are three:..

1st. Putrefying uncovered meat and carcasses.

2nd. The effluvium from rendering vats and tanks, whence odors are carried off when the tanks are uncovered, and the vapors are not consumed by passing through the fire.

3rd. The decomposition of the floor washings carried away in open drains.

The first and third causes equally apply to slaughter houses crudely constructed.

Recommendations.—In view of the facts, your Secretary would recommend that the Local Board of Hintonburg be instructed,

1st. To enforce the provisions of section 72 of the Public Health Act with regard to the licensing and regulating this class of industry.

2nd. That a license be granted only on condition that (*a*) floors be laid of cement or tongue-and-grooved materials, which can be regularly washed.

3rd. That a tight room be provided in cellar or elsewhere where carcasses will be kept at a low temperature to delay decomposition.

4th. That all rendering vats be covered, and that from them a pipe for carrying the steam and effluvia be led to the ash pit of the furnace.

5th. That skins and other refuse be dried in a room where the odors can be carried to the furnace.

6th. That a proper covered tile drain be constructed to lead the sewage to a tank with two compartments, from the latter of which the water can from time to time be discharged into a number of sub-surface tiles or passed over a sand filter before the effluent is allowed to pass into any stream.

There would seem to be no good reason why, if such conditions are insisted upon, such industries should not be carried on at once with profit, and without creating any insanitary condition.

All of which is respectfully submitted.

(Signed) P. H. BRYCE,
Secretary.

THE SWEATING SYSTEM.*

By. P. H. Bryce, M.A., M.D.

Madam, President, Ladies and Gentlemen,—In accepting the invitation of your Committee to address a few words on the subject assigned to me, I have felt that, while the importance of the subject cannot be over-estimated, my opportunities for obtaining by personal investigation the facts necessary for speaking in an authoritative manner have been both occasional and very imperfect.

Coming, however, frequently into contact with the people while investigating some outbreak of disease, and having had the advantage of perusing various special reports on the wage-earning powers and social conditions of the laboring people, I am in a position to refer to at least some of the difficult problems entering into this important social question.

The ever increasing complexity of society in our rapidly developing country is bringing into existence conditions which have been the despair of legislators who during the past century of reform have endeavored to cope with the evils which through centuries have grown up in the crowded cities of the countries of Europe, and which are forcing upon the attention of philanthropists and statesmen, alike in the United States and Canada, the rapid spread of those evils attaching to the growth of urban population which in the early days of settlement did not exist. The growth in Ontario of urban population between 1881 and 1891 was from 25 to 30 per cent. of the whole population and the census just taken will find this percentage still further augmented.

Our time does not permit of an enquiry into the causes, moral, social, industrial and economic, producing these results; but suffice it to say that they are found to be producing the same results as in already crowded countries, as in England, where the census of the present year has shown the urban population to be more than 75 per cent. and in the United States more than 40 per cent. of the total population. Commercial expansion has made the increase of industrial employment possible, but the supply of workers, whether of immigrants from older lands or from the rural districts of our own land, added to the natural increase of urban population, has ever been in excess, unless temporarily, of the work to be done. That, however, industrial competition is due rather to the insufficiency of methods or machinery for distributing labor than to the excess of work-people might be illustrated indefinitely, and in addition to this is that never-solved problem of how to get the free individual to be directed into productive channels, where competition does not greatly exist, namely, to the land where, for honest industry, comfort and health are always possible, and for most a competency. Especially does the difficulty exist in connection with the women of our communities, who are, so to speak, fixed to the soil. They cannot migrate to farms, unless as wives, while the kinds of employment for them are naturally limited, by our social ideas, to lighter work, such as that found in household duties, stores and factories. But these occupations vary, even in their attractiveness and possibilities, and while a woman, mistress of her own house, will be satisfied with household duties, we find an increasing dislike to the so-called menial duties of a household servant, just as we have seen a dislike for farm life, and we find young women of every class, cultivated and otherwise, competing either for work in offices, schools and stores, or in the workrooms and factories, and even in larger numbers for the chance to obtain unmanufactured goods to be taken to their homes to be made into garments.

When the facilities of transportation and trade between even distant countries are further considered, and how the labor market is sensitive to any change where a commercial crisis or a war, even across oceans, occurs, it is apparent that the problem of how competition in prices of goods must immediately affect supply and demand, and therefore wages, is not one which can be solved by any hard and fast commercial rules, or by any legislation, however wisely made or honestly administered.

I have been but summarizing some facts and conditions which are well-known to all, though perhaps we are not all accustomed to view them from the standpoint of their relationships to one another; but it is apparent that no great good is likely to come out of say attempts to combat the evils attaching to the "sweating system," or indeed any other social or economic evil without an appreciation of the principal causes underlying the

*Read May 16, before National Council Women's Association, London.

same. In England as far back as 1795 official enquiry was made into the Factory System; but not until the great period of agitation which begot the Reform Bill of 1832, did English statesmen seriously touch the questions of child labor or the sanitary condition of factory or other operatives. The findings of these Commissions are matters of history and England has been the mother of social reforms along both these lines. America has followed, and Canada has had several Commissions of enquiry, and Reports have been printed pointing out in 1896 and again in 1899, the existence of conditions similar, except in extent as regards the evils associated with certain lines of industry as in England and the United States.

Legislation too has followed; and there now exist on the Dominion Statute Book, laws regulating the conditions of labor in the matter of supplies of clothing made under government contracts, and in Quebec and Ontario Factory Acts regarding hours of labor, the employment of children, and the condition of shops. Indeed, at the present moment, the Factory Inspectors of Ontario are having regulations prepared for registering all employers, and the addresses and names of persons who receive materials for manufacture, with a view to the inspection of premises, and improving the surroundings of persons employed. But while this is something gained, it is apparent that, as laws against gambling do not prevent it, if people are determined to gamble, so factory acts will not stop sweat shop evils to any great extent, if the conditions which produce them exist. The poor woman who takes work from a manufacturer home, to labour at with her daughter's and other help for 16 hours a day, to make wages from $1.50 to $4.00 a week, would gladly live in a larger house with neat, sanitary surroundings, but how can she afford it? She would not willingly hide scarlatina and sent infected clothing back to the manufacturer for distribution; but she knows that if she reports disease, she will be deprived of a livelihood,—and she must live! The law can and indeed must step in to prevent a greater evil by creating a less; but it does not, probably cannot, create laws for preventing the competition which creates low wages. Only last week I noticed the assignment of an old established firm of clothing manufacturers in one of our large cities, from which it would appear that all do not make money at the expense of the work-people; and it is apparent that the over production which makes competition unprofitable and business failures to occur, will inevitably make the competition amongst work people greater and force down still further the rate of wages. We see everywhere the most unprecedented activity in combinations of capital, with the accompanying gambling in stocks, and find women and even clergyman engaged in it; yet we would fain hope that sowing the wind would not again reap the whirlwind. We see aggregations of capital engaged in great commercial enterprises and industries, as for instance ready-made clothing or millinery; but do we not all endeavour to get our goods as cheaply as possible? What, therefore, appears to be the difficulty underlying this problem of problems? I think all must agree that primarily it is a moral one. It is not supposable that Divine Goodness has not made His own earth adequate for the needs and happiness of all; and hence it seems logically true that, until His creatures learn to know that they are to exercise not the brute instincts, but the moral attributes contained in the Commandment "Thou shalt love thy neighbor as thyself", no possible solution of this problem can be found. We urge the necessity for more stringent laws; but the law-makers will not and cannot be expected to go further than the mandates of the people whom they represent. Do we not see corporations influencing governments and parliaments, and yet it is the people who have the power to elect legislators, who will obey their commands? Hence it is apparent that it is the moral status of the people as a whole which will determine just what our legislation shall be and how it will be administered. How then are we to bring about an amelioration of conditions which we deplore, or the removal of evils which are manifest to all?

We see organizations of Trades and Labour exerting their influence; but what direction is given to it? Take the cities where their influence is paramount, and we ask has it been exerted in putting men of high principle and intelligence into our city Council? What are the qualifications sought for in the men they elect to our Legislatures? The answer too often must be that the "slim" candidate, to use a new-found term, the man of many promises, is the man elected rather than the man of high moral ideals. One repeats again that it is in the moral field that we must look for a solution of this as other social problems; and it is in a large degree to the women of the country we must look for the exercise of those patient, yet unseen influences, which like the breath of spring are to

cause to germinate, blossom, and develop into fruit those seeds of goodness which the All-Father has implanted in mankind.

If, then, it is to this Association as representing the enlightened sentiment of the women of Canada that we are to look for those influences which are to bring about an amelioration of the conditions so inimical to the national health, whether social, moral or physical, we have to briefly enquire: how its energies and those of other noble women in our country are to be directed?

We have to reply in several ways, viz.: (1) By personal example; (2) By giving certain definite directions to education, (3) By influencing legislation; (4) And by individual and combined efforts to investigate existing evils, and through agitation, whether social, or religious, to create a public sentiment, which will at once suggest reforms and guide to their practical realization.

1. The influence of example: It would be presumptuous in me to even suggest to the ladies of this Association anything on this point; but, perhaps, I may venture by illustration to make my meaning plain. As has been set forth freely to-night by my friend, Dr. Sheard, there exist in every hamlet, town and city in Canada cases of consumption, a disease whose essential character is marked by an innutrition, in fact an inherited tendency, the outcome of such conditions as those we are discussing, and oftener due to the very industrial and sanitary conditions making the environment of those who are its victims. It will be apparent that if the ladies of our communities, realizing this could by systematic missionary work in the homes where such cases exist aid in extending a knowledge of how houses, though small, might be made more clean and sanitary, how cooking of cheap though nutritious foods properly, would make them appetizing and digestible, and how fresh air and sunlight can become the possession in large degree of all, they would probably have done more in lessening the prevalence of this disease than we are likely to do even by health laws and sanatoria. Were it possible to cause our highest social and ethical ideals to be imitated by those less fortunate in opportunities and education, can there be any doubt but that a healthier tone, both physical and moral, would prevail thoughout society?

2. The influence of education: What I have said about example might equally well have come under the word "education." Froebel has set forth that education is the establishing of a harmony between the "ego," or internal self, and the external self, or its environment; or that the object of man's life is to become a unit, physical, mental and moral. If this is our ideal, then it is plain that much that forms a part of present educational methods, makes such manifestly difficult and indeed impossible. How shall the child of crowded tenements and narrow streets ever be brought into touch with the world of nature,—God's world? Froebel initiated the kindergarten, which, if his ideas could be carried out, would do much to fulfil an ideal of education. But all will agree that to attempt within the four brick walls of a school, with bad air, poor light, almost no playground and no garden to create a harmony between the internal and external self is little short of an absurdity. Pale faces, injured eye-sight, crooked spines, and learning from printed pages of isolated facts apart from their relationship is not education. Surely it were better to halve the school-day, give the child an external life, if possible, where eyes may see nature, or a cultivated fragment of it, with some little room to train his limbs, to educate his hands in practising, as a pastime, some of the many simple technical arts of sewing, or knitting, or cooking, and of planing, sawing or gardening, which later on become irksome because associated with the deadening effects of labor for the sake of money. If the child could get to love a thing, how many difficulties in house keeping, as "the servant problem," would be lessened, when the mistress could, as in the simplicity of Arcadian times, handle the distaff and sing the songs of her country with her maidens; and how many labor strikes and socialistic disturbances would die of inanition if the master could meet his workmen on the ground of a common humanity, and show that all had common interests, that "God hath made of one kindred all nations under Heaven," and that on earth it is even possible that we may begin to enter into the Kingdom of God?

3. By influencing legislation: It is apparent that were such ideals as those suggested in any degree realized, the legislation which would be their natural outcome must follow as a logical consequence. It is an old proverb, "Let me make the songs of a people and I care not who makes their laws," and in it we see the evident truth, that outward acts are but the expression of the sentiments and thoughts of heart and mind. Were

Eden or Paradise regained laws for men would be unnecessary; for their love would be law and law, love.

"And worthy seemed, for in their looks Divine
The image of their glorious Maker shone,
Truth, wisdom, sanctitudo severe and pure,
Severe but in true filial freedom placed;
Whence true authority in men:"

And so, were the women of Canada inspired only with such a law, factory acts, restriction of child labor and labour unions would be as useless and unnecessary as were rules of honour for the Knights of King Arthur's fabled Table Round, or labour laws for the Land of the Lotus-eaters.

4. But inasmuch as we have to deal with the world as we find it, and as we know from sad experience that life is not only not all "beer and skittles," but that it is for the toiling millions often a sad world, it becomes our duty to take up the burden, where we find it, and as philosopher Carlyle has it "Do the duty which lies nearest you" by

Invetigating existing evils done only by individual efforts and then through organization create a public sentiment which will result in social reforms and improvements in our laws. Without reflecting upon the great good done through the National Council of Women, it does appear to me, that most effective work would result from the formation of a number of its members into select committees, to do certain definite work arranged for from year to year, so that at the annual meeting's correct conclusions based on broad data would form the basis of action in pressing for certain manifestly necessary and urgent reforms. Let me illustrate. I learned a day or two ago from that remarkably active and intelligent lady, Miss Carlyle, our single female Provincial factory inspector, that in one of our cities, one firm of clothing manufacturers has some 35 depots, or contractor's work shops, where clothing is sent for manufacture, and that probably 1000 more persons mostly women, receive work direct from the factory to be made up in their homes.

Now probably not less than 500 families are engaged in working for this single firm. It ought not to be a difficult thing for this Association to select from its members and their friends, good and wise persons in our different labour centres, to start out with printed forms, and through discreet and kind enquiry prepare for future use statistics of such value that a report based thereon would wield such an influence for good upon the public, manufacturers and legislators that if reforms were found necessary the reasons therefor would be so cogent and unanswerable that they would instantly follow. That we know nothing accurately regarding the condition of this last class of workers may be learned from the fact that only this year has Ontario legislation required a register to be kept by all clothing manufacturers, of the persons and their residences, where material is received for manufacture in order that proper inspection of these can be made. How imperfect at the best this inspection will be may be seen from the figures given for all from probably 2000 houses apart from the workshops of contractors. Something has indeed been done, to point out the direction in which to work; but if real good is to come of it, the visits to houses where work is done, should be rather in the spirit of helping, than of arraigning those whose necessities often make their surroundings insanitary. That such visitations are however demanded in the interests both of the workers and the public can be abundantly illustrated. We have already referred to the prevalence of consumption; and we unfortunately know how prevalent it is amongst those engaged over hours, in sedentary work and in crowded premises. Of 636 houses in one tenement district of New York, there was an average of ⅔ of 1 case to each house; and amongst these doubtless were many sweat shops or work rooms similar to many a poor home among us where the mother will be found working to maintain the consumptive daughter or the daughter labouring to provide for a dying father. But the evil has only begun at this point. As the struggle becomes keener others of the family are infected and less able to resist infection.

From a country village a complaint came to me within the last fortnight, that a baker who has been ill for months with consumption was making bread and sending it out from the premises where he lived; and later I was informed that he is giving up and leaving the work to wife and daughter who will be his nurses. If such conditions exist in a country village, what must be the end where in hundreds of families in our cities work is taken home, and clothing to be subsequently handled and worn is worked upon in some cases by the sick or kept in infected houses for days? But, this is but one disease

and we know how readily other diseases as scarlatina, diphtheria and small pox will disseminate through clothing. That the dangers are not imaginary may be illustrated by a single personal experience. Some months ago I was telephoned by a suburban physician to come and see a supposed case of small pox. It proved to be a true case, a boarder in a house where a number of others also resided. As we entered the house we went into the front room and found two women dress-making, who naturally were much alarmed at the possibility of small-pox. Passing farther we found the sick man, a barber, lying on a lounge in the kitchen, where the mistress was engaged in baking, and had just removed pies from the oven. One day later and the manufactured goods would probably have been sent home, to be worn by some innocent, and unsuspecting victim of conditions, not foreseen and for which no person was responsible. The patient was a barber who had shaved an undiagnosed case, who about the same time infected the tailor who had made a coat for him.

We have at present smallpox existing in the Province, and one has only to suppose a mild case existing undiagnosed or hidden in a private work-shop to understand, how at any moment many cases may spread from a single house, during the six weeks of the disease. That the danger may be averted was proved in Montreal in 1885, where as a condition of admitting goods into Ontario, every clothing and other manufacturing firm, had to satisfy the Provincial medical inspector that all their people were vaccinated and came from healthy houses, and that every bale of goods was made on the premises, and that each was fumigated before being shipped. Except in probably one case, not a single case of smallpox was imported through goods into Ontario. I need not illustrate further either the need of inspection of places where ready-made clothing is manufactured, or the possibility of good resulting from its being carried out. As a routine measure I have suggested to both manufacturers and factory inspectors that every article on being returned to the factory shall be passed through a simple steam disinfection, inexpensive both as to time and method, just as during the past two months, provincial inspectors have disinfected in a steam chamber every article of baggage of 5,000 men from the lumber camps, at our station at Sudbury before allowing it to be taken to their homes.

But while we are thus protecting the public we must go further and protect the workers. All factory inspectors and all reports of commissions agree that the work of manufacture in order to prevent the evils of sweating, as of over-work and of dangers due to infection, should be carried on in the factory. It is quite true that even then, persons from infected houses may carry infection; but the danger is greatly lessened, while our experience shows that the manufacturer being brought into more direct contact with the persons he employs is more likely to deal with them in a fair way, than when he knows nothing of them. Besides this it is possible to have in large factories better heating, lighting, ventilation and sanitary arrangements, than in most family dwellings, and such are more readily inspected and made more amenable to regulations It is my conviction based upon many years' experience, that the evils, which we so greatly deplore are rather due to lack of appreciation by manufacturers of the possibility of removing existing evils, than of any brutal or selfish indifference to the welfare of their operatives Business operations are so wide in extent and character, so many departments demand immediate and prompt attention, that employers and their managers have about exhausted their energies when they have calculated the cost of buying and selling and of paying their debts, not interfering, and properly so, with the domestic independence of their employees. When, however, other and better methods are brought to their attention, sometimes by inspectors, sometimes by public opinion forcing certain facts upon their attention, I have noticed a general willingness on their part to co-operate if it can be shown that the reforms are practical. The matter has recently come up in connection with the sanitation of lumber camps, and I have been much pleased at the readiness with which prominent owners and managers of lumber companies are prepared to introduce improvements, as better ventilation, laundries, and a hospital building or tent for the welfare of men in the camps and at the mills.

General denunciations are useless, and productive of no good results, because often undeserved, and when deserved it is not the kind of reproof that is acceptable. What is demanded especially in all matters of sanitary reform, social and moral reform is that the better way be pointed out, and the means of its accomplishment indicated; and I know of no way by which this can be done so rapidly and efficiently as by the personal work and co-

operation of the ladies of our communities, aided by all other good citizens. I have noticed during my experience of twenty years, that in proportion as the public are relieved of th e personal responsibility for any class of work, say, sanitary matters, or the care of their own sick or unfortunates, the more do they demand of officials, as if they have the legal and moral right to unload upon the authorities all personal responsibility. We see this similarly in the education of our children, whether at day school or sunday-school—the teacher and preacher are too frequently looked upon as the grocer and butcher, who are paid for relieving parents and housekeepers, from the disagreeable necessity of seeing that their children are educated and directed in the path heavenward.

In conclusion, I have only to say that our task, as that of all human uplifting, is and must be a slow process, based upon ceaseless endeavors. Were it otherwise it would be wholly out of keeping with the world-processes, which we have observed seem to be but a fulfilling of the purposes of the Creator in His own Universe. In proportion as we rise in the scale of being, which means a physical, mental and moral process, shall we maintain ourselves and help others to that place, where the words of the Great Master will greet us :—" For as much as you have done it to one of these my brethern you havo done it unto me."

THE TREATMENT OF TUBERCULOSIS IN SANATORIA.*

P. H. Bryce, M.D., Secretary Provincial Board of Health.

Mr. Chairman, and Gentlemen of the London Medical Society :

It was with unusual pleasure that I received your kind invitation to read a paper before the Society on a subject which is assuming so important a position in our ideas relative to the treatment of that most prevalent and fatal disease, tuberculosis. It is quite true that tuberculosis presents very different clinical appearances at the several periods of life ; yet, as will appear in the mortality returns which are presented in the following table of deaths in Middlesex during the past five years, we may for practical purposes say that treatment in sanatoria of tuberculosis will be of that pulmonary form commonly known a consumption. Thus only fifty-eight deaths, including those under one year, are recorded for the first ten years of age out of the 673 deaths which were registered ; or we may say that over one hundred deaths occur annually in Middlesex from pulmonary tuberculosis.

Deaths from Consumption, County of Middlesex, by Ages and Sex.

(*For five years, 1895 to 1899, inclusive.*)

Years.		Under 10	10 to 19	20 to 29	30 to 39	40 to 49	50 to 59	60 to 69	70 and over	Age not given.	Totals
1895	Males	1	6	25	13	9	9	5	3	.....	71
	Females	2	12	20	11	8	10	3	.....	.....	66
	Totals	3	18	45	24	17	19	8	3	.....	137
1896	Males	4	5	13	9	4	4	6	.....	1	46
	Females	4	11	25	17	11	8	2	1	.....	79
	Totals	8	16	38	26	15	12	8	1	1	125
1897	Males	5	7	9	10	10	5	6	1	.....	53
	Females	7	10	23	14	12	5	3	1	.....	75
	Totals	12	17	32	24	22	10	9	2	.....	128
1898	Males	6	5	12	10	9	10	5	2	.....	59
	Females	13	12	24	7	8	5	5	2	.....	76
	Totals	19	17	36	17	17	15	10	4	.....	135
1899	Males	11	6	15	18	8	7	8	5	.....	78
	Females	5	7	20	16	6	8	2	6	.....	70
	Totals	16	13	35	34	14	15	10	11	.....	148
Grand Total	Males	27	29	74	60	40	35	30	11	1	307
	Females	31	52	112	65	45	36	15	10	.....	366
	Grand Total	58	81	186	125	85	71	45	21	1	673

But while this is true as regards actual deaths, it is not equally true as regards the proportion of different forms of the disease actually prevalent during the various periods of life. As expressed in a previous paper :

"The interest which the study of this disease has for us as medical men becomes increasingly great when we recognize how numerous are its varied manifestations, how insidious its beginnings, and yet, though so often slow in its evolution, so fatally persistent in its progress. From birth to old age this disease is present, often obscuring as mists of the morning our vision in the diagnosis of the diseases of infancy, again seeming for the

*Read before Middlesex Medical Society, London.

few short years of childhood to be dissipated as the clouds at noonday, only to return once more with adolescence as a dark storm-cloud, too often bringing rapid ruin and destruction with it; or if such be delayed, then only to leave constitutions as shattered ships, gradually but surely breaking up until they finally disappear in the deeper gloom. So generally spread, indeed, are the germs of this disease that the physician must ever be prepared to see them taking advantage of the invasion of every acute disease, as when in typhoid, pneumonia or pleurisy they make the attack at some vulnerable point when the vital resistance of the patient is at its lowest point."

Realizing the truth contained in this paragraph, it is apparent that there must always be a large number of cases of incipient tuberculosis which will not be recognized as such until some more acute manifestation of the disease places the patient in the hands of some physician. That even then many cases are not diagnosed is quite within the experience of all. It must, therefore, appear evident that the problem of the treatment of tuberculosis, from the standpoint of a cure, whether in a sanatorium or elsewhere, depends primarily, other things being equal, upon the stage at which the patient comes under medical observation. I have collected data from various sources of information which will be useful in our consideration of this very essential point.

Stage of the Disease at Time of Diagnosis and Treatment.

In the laboratory of the Provincial Board of Health, specimens of sputum are examined from all parts of the Province, with information supplied on postcards. Of 138 specimens, Dr. J. J. Mackenzie gave the following results:

Duration of Symptoms (Reported).		Positive.	Negative.
One month and under	18	16 6 per cent.	83.4 per cent.
One to two months	26	34.6 "	43.4 "
Two to three months	14	50 "	50 "
Three to six months	27	55.5 "	43.5 "
Six to twelve months	28	46.4 "	53.6 "
One to two years	8	62.5 "	47.5 "
Over two years	15	26.6 "	73.4 "

The results of the second laboratory period, ending October, 31st, 1900, are included in the following:

Of the 591 specimens sent to the Provincial Health Laboratory in ten months ending October 31st, 1900, 218 gave positive results, and 373 gave negative. Of 389, with data supplied, 149 gave positive results, and 240 negative results. Of 149 positive results, 69 were males and 80 were females.

Number of patients giving positive results, by ages:

Years:	16-20	21-30	31-40	41-50	51-60	61-70	Total.
Male	11	24	15	13	6	0	69
Female	12	32	20	9	6	1	80
Totals	23	56	35	22	12	1	149

Table showing number of positive cases, arranged according to duration of symptoms when specimens were submitted:

	1 month and under.	1-2 mo's.	2-3 mo's.	3-6 mo's.	6-12 mo's.	1-2 yrs.	2 years and more.	No data.	Total.
Male	5	4	10	11	16	8	8	7	69
Female	2	3	11	19	25	7	10	3	80
Total	7	7	21	30	41	13	18	10	149

Roughly, the disease had existed in these over two years; on an average, for fifteen months. It may be said that until very recently the larger proportion of cases of consumption were not diagnosed until the physical signs were well advanced. Dr. S. G. Bonney, Professor of Medicine in the University of Denver, has recently written regarding 546 selected cases in private practice, and states that "388, or 71 per cent., arrive in Colorado with distinct evidence of tubercular infection in each lung," also that "the total

average period of delay from the time of definite onset of the disease was a little over eighteen months." Dr. S. Edwin Solly, of Colorado Springs, says that of one hundred successive cases

In 48 cases treated as soon as diagnosed	24	were in	1st stage
	14	"	2nd "
	14	"	3rd "
In 52 cases not treated for several months or even years after onset	14	"	1st "
	17	"	2nd "
	21	"	3rd "

Statistics still more valuable for practical purposes and more comparable to the results of the laboratory returns already referred to, are those of the Hanseatic Insurance Co., carried on under the Workmen's Compulsory Insurance Laws in Germany, where, of 1,541 cases treated between 1893 and 1897, 30.9 per cent. were slightly affected; while of the Bremen Insurance Co. in 1896, 279 patients were treated at the Reichburg Sanatorium, of whom 23.9 per cent. were slightly affected, 32.7 per cent. were moderately affected, and 43.6 were seriously affected. The Gravenhurst (Ont.) authorities have stated that not more than 1 in 8 cases, examined for admission, are in the first stage of the disease. But, further, Dr. Trudeau, of the Saranac Lake Sanatorium, in his last article published this year, states that about 33 per cent. of the 1,200 cases treated within the last three years were in the incipient stage. Thus, taking the more exact German statistics and those of Drs. Solly and Trudeau, where patients were treated as soon as diagnosed, we may say that, with our present knowledge and the actual practice of the public in the matter of seeking medical advice, not more than 25 per cent. of patients are brought under treatment for pulmonary consumption until the disease is well advanced.

It is quite clear, therefore, that, in considering the sanatorium treatment of consumption, we must keep two distinct objects in view, viz: (*a*) the cure of the disease, and (*b*) the prolongation of the life of the patient, and the removal of infectious cases from surroundings where they are a menace to the health of others.

If we assume that each of the 100 deaths occurring in Middlesex in any year represents the 75 per cent. of patients who were in the more advanced stages of the disease, and that, as we learn from the statistics of sanatoria, a large proportion of patients at this stage do not die during the year while at the sanatorium, as at Saranac Lake, it is probably within the mark to say that at least 200 patients are present in the county in an advanced stage of the disease during any year; and, hence, at the present time any sanatorium treatment will be directed chiefly to patients in advanced stages of the disease. This will be yet more apparent when we remember the distribution of cases in different sections of the community. Thus, in the returns for the city of Toronto during five years, I have found that at least 80 per cent. of the deaths occurred in the artisan and laboring class, and that of 1,555 deaths over 15 years of age, 1,211 died during the years when, if married, they would be rearing families; while 75 per cent. of the deaths of females were within the child-bearing period.

I have dwelt on these figures at some length, since they have a most important bearing upon the subject under consideration. It is, I think, quite evident that sanatoria must be considered as falling under two classes, viz., private sanatoria for the well-to-do, and sanatoria established under the provision of some statute similar to that passed by the Legislature for establishing municipal sanatoria in Ontario. While the principles of treatment of the phthisical in each case must be the same, there will, nevertheless, be differences in detail worthy of consideration. I shall, therefore, devote my remarks especially to the municipal sanatoria which we are seeking to establish, with the view both of curing the sick and prolonging their capacity for work, and of protecting their families against infection.

Management of Patients in Sanatoria.

Anyone who has any knowledge of patients in public institutions knows that the success of the institution depends primarily on the person in charge of the every day work, *i. e.*, on the superintendent; and, second, upon the rules which he is called upon to carry out. In the management of a sanatorium I shall take it for granted, as being beyond

question, that the superintendent should be a physician. It might be said: Well, if a sanatorium is nothing more than a large boarding-house, where the patients are to live in a clean, well-kept home, and given good food, and such exercise as they feel inclined to take, of what use is a physician? This idea has prevailed, and in some countries still prevails with regard to insane asylums and other similar institutions; but in all progressive institutions we now find the insane are being looked upon as patients, to be studied and treated with a view to cure in the same manner as any other patients. Such is the idea which has led to the success of the modern sanatorium treatment in the case of the consumptive. Hitherto he had been looked upon as incurable, and the most to be done was to make his life as comfortable as possible. Now, while we cannot hope to cure all the insane, and certainly do not expect to see all consumptives recover, yet the very success of our efforts in this as in all other work will depend upon the conviction which the superintendent has of the curability of the disease.

In the establishment of a municipal sanatorium, two things must be kept in view—that patients in the primary stage of the disease must be expected and provided for, and that patients who are in the advanced stage of the disease must be admitted in yet larger number, for a time certainly in the proportion of one to two. It may be mentioned in passing that two of the best known sanatoria on this continent, Saranac Lake and Gravenhurst, insist that only patients in the primary stage be admitted, or only such others with a history which presents the hope of cure or at least of great amelioration. Hence, at neither is there provided practically any separate hospital provision, since patients are strongly advised, if doing badly or incurable, to go home. In a municipal sanatorium, on the other hand, our object is not only to cure patients but to protect households; hence for this class of patients a very definite amount of hospital provision must be supplied from the first. The erection of a cottage hospital, therefore, becomes necessary, not only for this reason, but also in the interest of patients who are not advanced in the disease, in which the neurotic element forms so important a factor. Hopefulness and despondency must constantly be dealt with as symptoms where it will try all the resources of the expert physician to maintain hope dominant rather than despair. Thus the evil effects of lack of supervision are well illustrated at the boarding-houses and winter resort hotels in the South.

1. Hence, the first rule which must be strictly enforced in a sanatorium is, that patients be not allowed to discuss their own or other cases with persons other than the superintendent or other proper officials. This is the starting point of that benevolent medical tyranny which patients must submit to in a sanatorium.

2. The second rule is but a corollary of the first, viz: That systematic means must be employed to in every way provide mental employment of a wholesome character, and hence we come to a third rule.

3. The careful division of each patient's time by a time-card which he or she keeps regularly as a diary, and which the physician weekly or oftener examines at the time of his medical examination, and continues or modifies the daily routine laid down previously in accordance with the experience obtained from results. I have had some knowledge of private sanatoria in different parts of this continent, and am convinced that in no one feature is there such room for improvement in the routine methods as in the close oversight of the daily life of each patient.

4. Assuming that the patient has arrived at the sanatorium, it is apparent that a complete family and personal history should be taken, as well as a detailed history of the case as regards its duration, signs, symptoms, extent of infection, progress of the disease, and a detailed examination of all organs and secretions. As the patient is new to his surroundings, it is natural that a close daily observation of him for a short time should be necessary in order that the best line of treatment in his particular case may be accurately mapped out, being modified only as subsequent observations may dictate.

5. As many are aware, the sanatorium treatment of consumption dates back to at least sixty years, but the work of Dr. Hermann Brehmer, at Gorbersdorf, begun in 1859, is the first whose history has been continuous to the present time. Following him as a pupil and co-operator, Dr. Dettweiler, of the Falkenstein Sanatorium, has added much to the knowledge already obtained at Gorbersdorf, of the treatment which we now call "The Open Air Treatment of Consumption." It will of course be understood that the sanatoria are constructed with all the advantages theoretically supposed to aid in the fresh air

treatment, such as perfect house ventilation, rooms exposed to direct sunlight, verandahs and solaria in proper and convenient positions, shelters in the grounds which may be turned away from the winds, walks through the grounds with graduated inclines. amusement rooms, and so on.

6. Actual treatment, as a rule, begins with the patient being placed in bed on his arrival and kept there, should the afternoon temperature rise to 100° F. or over ; while the beds are daily wheeled to some large window or protected open balcony. Symptomatic treatment of the pyrexia is practised by some ; but as a rule it is not advisable or necessary, as reliance must be placed on the improvement of the nutrition, and the quieting influence of fresh air on the thermic nerve centres.

7. When the fever has for several days been practically reduced, the rest cure proper begins, in the patient being allowed to recline on an adjustable reclining chair on a balcony protected by glass shelters in the direction of the wind. This treatment at many sanatoria is continued from 9 a.m. to 9 p.m., the patient then going to his bedroom, where even in winter, the window is left open, a screen only keeping off the wind.

8. While it is apparent that the condition of the patient must determine how long this treatment is to continue, both theory and more recent practice point to the time when with improved nutrition and increased strength gentle exercise may with advantage be added to the treatment. This is first attempted, unless in cases with recent hemorrhages, by breathing exercises, which are not more than the simplest movements which are taught our school children, increasingly to the more complicated ones of our manual of military drill. As progress is made, walks for graduated distances. and at different inclines, are permitted, and finally games and recreation, as bowls, tennis, boating and cycling are indulged in in moderation, while at the municipal sanatoria it is found that a notable improvement in patients has taken place where light gardening, household work, basket-making, and similar light industries have been introduced. Both from the evidence in many cases where ranching or outdoor life in the mountains has been taken up by consumptives, as well as from our every-day experience of the effects of exercise on nutrition and reconstruction of tissues, there can be no doubt but that under wise supervision, both from the physical and mental standpoint, such employments play an important part in promoting cures. Indeed, Dr. Hans Weicker, of the Krankenheim, at Gorbersdorf, where a large number of work-people have been treated during the past five years, states that this class of patients improve decidedly more rapidly than the better classes, especially since some employment had been provided.

9. As adjuncts to treatment, some sanatoria have baths in which a more or less elaborate system of hydrotherapy is carried out according to the views of the medical superintendent. There is, perhaps, no sanatorium in which the benevolent tyranny is more exercised than at Dr. Otto Walther's sanatorium at Nordrach in the Black Forest. Walther trains his patients to stand even draughts, and makes the cold douche a means of giving resistance and tone to the peripheral circulation. Personally, I am convinced that the hot and cold bath play an important part if intelligently administered through improving the general tone and skin circulation ; since it is common observation that the elimination of waste-products by the Turkish bath may safely go on without danger of a subsequent cold.

10 The question of the food of consumptives has been greatly discussed, and, as all are aware, much has been said which seems contrary to our observations and experience in the general question of assimilation and nutrition. At present, I believe it may be said that most physicians to sanatoria are agreed that a generous and nutritious diet,food well cooked, palatable and easily digested. is productive of the best results. We are all aware of the great change which has taken place in the feeding of typhoid patients. It used to be a standing order to give two quarts or more of milk daily, regardless of whether a diseased intestinal tract could assimilate a pint or not, ending, naturally, in discomfort, and the constant production of toxins. The same must necessarily be the case in the ill-regulated feeding of the phthisical. In nothing, however, will the personal and professional qualities of the physician be more tried than in this matter. The patients have already in most cases been suffering from dyspeptic troubles, especially of that persistent form, the intestinal, so closely associated with the neurotic type. Anorexia must be overcome by gentle persuasion, assisted more largely by the fresh air than all other agencies

and perhaps passive exercise and massage; while the use of lavage and the best intestinal disinfectants will prove of notable advantage.

11. The use of fats and oils, amongst which I would place first cod-liver oil, has been the subject of much discussion as regards their utility in the treatment of this wasting disease. We are all aware of the various theories regarding the emulsifying of fats through the action of the secretions, especially that of the pancreas, and may fairly assume that the amount of this, as of other secretions, is affected during an anæmia, such as that commonly present in phthisis. Recent experiments seem, however, to make it clear that fats are absorbed in a soluble form as fatty acids, and that the biliary and pancreatic secretions simply increase the solubility of the fatty acids. However that may be, there is in my experience a very notable distinction to be made in the readiness with which the two forms of carbonaceous foods, the starches and fats, are assimilated by many persons, especially persons with a weak intestinal digestion. In the case of starches it is common knowledge that the patient of the neurotic type must use certain starches, as that of the potato, very sparingly if intestinal fermentation is not to result, and the constant use of white bread can, I believe, in such patients be often restricted, with much advantage. On the other hand, it is common observation that persons of sedentary habits are increasingly refusing to eat fatty foods, as fat meats, butter being the only form of fat seemingly palatable. Now it has been a matter of personal observation that oils used, as olive oil in southern climates, in large amounts, and the best purified cod-liver oils can be used with the best effects in many patients to whom, owing to their not being a common article of diet with us, they may seem at first nauseating. Their utility, in my opinion, depends upon three distinct causes: (1st) They serve, owing to their oily nature and to their being broken up in the intestine into fatty acids and glycerine, as laxatives and lubricants of the intestinal walls; (2nd.) They are but slightly acted upon by bacteria, although in the absence of bile and pancreatic juice they may be decomposed into fatty acids and be largely discharged unabsorbed. And (3rd), when they are absorbed by the columnar epithelium of the villi, they are carried directly to the central lacteals, and thence directly to the thoracic duct, instead of going, as in the case of starches and proteids, into the portal circulation for elaboration in the liver. What is of equal interest and importance is that fats do not increase the glycogen of the liver, and hence relieve that organ of the elaboration necessary to convert this carbohydrate into material assimilable by the tissues. Moreover, the simple constitution of the fats—that is fatty acids and glycerine—with the small amount of oxygen in their constitution, compared with starches, would seem to make them more readily converted into heat and energy by the oxygen conveyed by the hemoglobin of the red blood corpuscles. I have thus at some length attempted to give my reasons for urging the increased use of the more palatable fats, since I am convined that the habits of our more civilized life tend greatly to a decrease in their use to the detriment of the general health, and the tendency to wasting diseases, even in those not suffering for the moment from anæmia or phthisis

12. The question of the use of alcohol has been much discussed within recent years, followed by a growing tendency to its complete disuse as a means of reconstruction of tissue Speaking exactly, I believe it may be said that its use, except in patients with strong digestions, is contra indicated, except as a temporary stimulant, owing to its disturbing effects upon the glycogenic functions of the liver in the large proportion of patients of the neurotic type. If, however, ales and porters are well borne, I am of the opinion that they will prove of value as productive of heat and energy in the reconstruction of tissue.

13. With regard to the proteids, it is hardly necessary to say that meat, milk, eggs and similar articles of diet will be used up to the limit of their assimilation by the system.

14. Having dealt with the ordinary methods of treatment, it seems proper to refer to some of the details of special varieties of treatment developed within recent years. Among these I would refer first to that which, in patients deprived for a time of the privilege of active exercise, most nearly takes its place, viz, *massage*. Its value as an aid to the metabolic changes taking place in tissues cannot be over estimated. Sir Michael Foster remarks: "In this way an enormous metabolism may be excited, and yet so carried on that the body gains both in flesh and fat," and illustrates this by a case where a patient in fifty days increased in weight from 45 kilos to 60 kilos, the average daily ration of 100 grammes of proteids having been increased to 150 grammes over the whole period. Where active exercise becomes possible this, of course, may be largely dispensed with.

15 The effects of reduced air pressure in the climates of high altitudes has been frequently commented upon, and in view of the physiological explanations given of such influence upon hemopoiesis, or the increase of red blood-corpuscles, and the deepening of the inspirations, we seem to have the best reasons for endeavoring to imitate such conditions by means of a room so constructed, with a gas engine arranged so that the air pressure can be reduced. Another apparatus which, while lessening the air pressure on the chest walls, enables the patient to breathe air of normal density, is the "pneumatic cabinet." It varies in its details and completeness, but I am convinced that this direct means of deepening the inspirations and setting unused corners of the lung tissue to work, will have a definite therapeutic value if scientifically practiced.

16. As regards the dress of patients, it need only be said that loose-fitting clothing, with flannel underwear of sufficient warmth, is all that is required; while, of course, care in protecting the feet by felt shoes and overshoes in damp or cold weather would be exercised.

17. As regards the symptomatic treatment of patients, it is impossible here to enter into details. The most that need be said is, that the various measures which every physician practices for dealing with the several phenomena presenting themselves in this as other diseases would be drawn upon. Nasal and throat abnormalities or diseases will demand appropriate remedies, hemorrhages, night-sweats, and the errors of digestion, must receive proper attention; and, indeed, our full armamentarium will be called into requisition in dealing with the emergencies arising in the many patients of a sanatorium.

18. Personal hygiene in the case of sputum, the careful disinfection of the buccal and nasal cavities, and the careful instruction of patients in all matters of personal control, will necessarily become an important part of the duties of a medical superintendent. He has not only to consider the life of his patient while under his supervision, but he must further inculcate such rules of life as will be most likely to be beneficial to patients when they return to their homes, and enter once more into some occupation. Much might be said on this point did time permit. Personally, I am of the opinion that in very few instances can patients return to the sedentary pursuits of urban life with safety. The very conditions of success in the air-cure seem to point to out-door occupations as being alone those where the maintenance of good health can fairly be expected. It may be quite true that such conditions will be difficult or impossible of fulfilment; but we are dealing with a condition rather than a theory.

In concluding these necessarily imperfect remarks, I cannot overlook the, perhaps, most important part sanatoria will play in lessening the fatality from tuberculosis. They are essentially prophylactic, first, by receiving patients from small, often insanitary homes, where they are not only possible but almost certain centres of infection. Thus of the 663 tenements in 1896 in a single ward in New York, 37 per cent. had one or more cases of consumption, there being .81 of one case to every house; while in a statistical study made of the deaths in Huron County for ten years—1889 to 1898—I found that 33 per cent. of the total 633 deaths were of persons having a name recurring two or more times. Thus sixty names occurred twice, twenty-five names thrice, ten names four times, two names five times, six appeared six times, and one was found eight, and one nine times. It is futher found in answer to inquiries made on post cards accompanying specimens of sputum for examination in the laboratory, that a notable proportion report other cases at present existing, or having existed in the house.

But the sanatoria will prove a perhaps equally important factor in becoming educational centres from which persons will return to their homes and there preach the gospel of cleanliness. And, indeed, all evidence is going to show that our ideas of cleanliness will not avail to prevent danger of infection to the well where the expectorating consumptives live and are employed. Most stringent directions are given in sanatoria against coughing, except into some paper or cheese-cloth handkerchief which can be destroyed, since moist particles of sputum fly into the air, remain supended for several hours, and when such disappear they deposit their bacilli on walls and floors to rise again as dust. Dr. E R. Baldwin has published most interesting experiments where the washings taken without warning from the hands of ten private and eighteen sanatorium patients at Saranac Lake were inoculated into guinea pigs. Half the private patients used cuspidors and occasionally their handkerchiefs, the rest used cuspidors or cloths. Their hands had been previously washed within from ten minutes to twelve hours. Of

the ten private patients eight were the means of inoculating either one or both of the test guinea-pigs. Of five sanatorium patients whose washings were injected, two infected one guinea-pig only, the disease resulting being of a very chronic and localized type. It was noted that it was the private patients who insisted upon the use of handkerchiefs who furnished the cases of severe infection. The lesson thus taught is obvious.

In conclusion I wish to refer to a matter which I have referred to before in speaking to physicians regarding persons in their practice whom they find tuberculized. We have already seen how large a proportion are not diagnosed until the disease has become well advanced. It is apparent that if further delay in taking prompt action occurs, the double injustice is done both to the patient and to those living with him.

I am quite well aware how inconsiderate such patients and their friends often are, and how a physician, after losing a few patients by his honesty, is slow to tell a patient the truth. But a wise discretion will, in most cases, result in retaining the confidence of the patient and family, while the consciousness of having performed a plain duty will be a source of personal satisfaction. I quote the words of Dr. Trudeau, of Saranac Lake, a man beloved by all who know him, and one than whom no one has devoted for twenty years more singleness of aim and scientific energy to the study of the protean phases of this disease :

"As soon as the diagnosis of tuberculosis is established, particularly if the bacillus has been demonstrated in the expectoration, no matter how well the patient may appear, he should at once be told the grave nature of his malady, and an immediate removal from his surroundings should be urged, while it is explained to him that the best and possibly the only chance of restoration lies in prompt action and the adoption of thorough measures. Although obedience to this advice undoubtedly necessitates great sacrifices on the part of the patient, he will, if it is at all possible, rarely hesitate to make them, provided the gravity of the situation is plainly laid before him and the necessity for prompt action explained; and if this is not done, he will be called upon to make the same sacrifices later, and when they can prove of little or no avail."

"The position physicians take who purposely deceive patients as to the nature of their malady by telling them the bleeding comes from the throat, or that they have influenza, malarial disease, or bronchitis, is difficult to understand, and does the patient a grave injustice."

"It will be justly urged that in a great majority of cases among the poorer classes it is absolutely impossible for the patient to follow the advice given. This is greatly to be regretted; and while it in no way relieves the physician of the responsibility of making an early diagnosis, and advising prompt and radical measures to those who can afford to follow his advice, it is a strong plea for attempting to provide sanatoria for a greater number of these unfortunates, where they can find, at a moderate cost, the climatic and hygienic surroundings necessary for the treatment of their disease as soon as its presence is recognized."

It seems, therefore, evident that what the present situation demands for the treatment and prevention of this disease is before all things a recognition of its curability by prompt action in its early stage, of the certain danger to the patient in delay, and of a daily increasing danger to those with whom he is constantly associating.

To meet these several desiderata we may say that in practice, sanatoria properly constructed, equipped and officered, will alone be found adequate.

CONSUMPTION IN RELATION TO PERIODS OF SETTLEMENT IN ONTARIO.*

Mr. President and Gentlemen of the Institute:

I have to excuse my appearance before this audience for presenting a paper hurriedly prepared, and being a collection of notes rather than a series of worked out conclusions.

On collecting from year to year the returns of deaths from tuberculosis by counties I had noticed that certain groups of counties seemed to show a relatively higher death-rate from this disease than others; and had associated the fact with their different elevations, soils and exposure to lake breezes. Recognizing as has been general with sanitarians the association of the deaths from consumption with particular families, it occurred to me, as it has to others, that it might be possible to show this by collecting the names of all persons who had died in a county during a ten year period and finding what proportion the names which occurred twice, thrice, etc., bore to the total deaths for a county. Taking the counties of Lincoln, and Welland, I found of all the deaths 33 per cent. were names which occurred more than once, and that the average was 2.7 deaths to each of these names. It is but a step in the process to associate the deaths not alone with certain families, but with certain houses. This, of course, has not been possible with our death returns, but must depend upon a much more exact method of obtaining our statistics, that of house to house inspection. As an instance of this I may give the results of an inspection in the tenement house district of Ward IV in New York. In 1896 it contained 663 houses with a population of 18,323 or 27.6 to a house. Of these 248 or 37.3 of the whole were infected, with cases giving 0 81 of one case for every house in the Ward. Of the infected houses each had 2 81 persons infected or more than 1 in every 10 of their inmates. With such classes of facts, one gets into the habit of looking for illustrations of the same thing in all sorts of directions, and it has occurred to me to try with the very imperfect data at our disposal to determine whether the progress of what we now call "house infection" has any relation to the periods of settlement of different counties of the Province. It must be remembered that any attempt to draw conclusions cannot be very satisfactory: 1st, because of the census figures and those of the earlier years of registration in Ontario being necessarily imperfect especially as regards the deaths and their causes, and, 2nd, because the general health conditions, due to clay soils and imperfect drainage, have generally shown themselves associated with the relatively higher death-rate from all causes in certain counties.

Nevertheless the subject has some interest attaching to it, even from the standpoint of a historical retrospect of the periods of settlement of our different counties. For lack of time I have limited the study to the counties of Western Ontario, not including York, since I find that a large city tends to complicate the study. Had we the data available for the first half of the century, it would be of still greater interest to carry the study not only into counties, but into townships, and the nationality and character of their first settlers. For the last half of the century, something of this sort may, I hope, be worked out, since we now have collected in the vaults of the Registrar-General all the old marriage records since 1847, and many earlier, and to some of our ethnologists the work of separating the Macs from the Vans, and the Baptistes from the Hodges, will prove a most interesting and, I believe, satisfactory study, taken in connection with Mr Hunter's notes on "The Ethnological Elements of Ontario."

* Read before the Canadian Institute March 11, 1901.

Population and Deaths from Tuberculosis.—Table A.

County.	1825.		1840.		1851.		1861.		1871.		1881.		1891.		1899.	
	Pop.	Deaths.	Pop.	Deaths.	Pop	Deaths	Pop.	Deaths.	Pop.	Deaths	Pop.	Deaths.	Pop.	Deaths.	Pop.	Deaths.
Brant	3,373	..	13,125	..	19,725	19	25,943	30	21,546	32	21,362	38	.....	22	39,500	60
Norfolk	4,034	..	9,229	..	21,281	51	28,590	40	30,760	35	33,527	38	.....	25	33,588	33
Elgin	5,543	..	12,554	..	24,144	27	30,419	48	31,469	32	33,994	37	.... .	25	47,012	53
Welland	8,327	..	12,402	..	20,141	25	24,955	30	25,760	37	31,771	43	.....	46	33,197	51
Haldimand	1,201	..	*	..	18,788	15	23,708	24	24,851	20	24,980	34	.....	17	25,403	22
Lincoln	9,900	..	14,724	..	19,500	33	21,341	40	21,683	28	21,942	66	.....	53	32,600	57
Wentworth	6,506	..	14,925	..	28,507	21	31,832	35	33,883	68	30,991	119	.....	89	85,463	135
Middlesex	3,209	..	13,183	..	36,663	32	56,058	33	66,769	48	73,335	136	.....	57	110,511	148
Oxford	3,111	..	11,721	..	32,638	27	46,226	53	48,237	42	50,159	62	.....	55	54,027	80
Waterloo	1,640	..	7,063	..	26,537	12	38,750	27	40,251	55	42,740	67	.....	62	54,710	61
Wellington	284	..	7,312	..	24,436	13	42,928	36	50,431	52	56,299	79	.....	41	64,419	68
Halton	3,423	..	11,247	..	18,322	7	22,794	31	22,606	24	21,919	26	.....	14	23,825	28
Peel	3,101	..	13,173	..	24,816	10	27,240	28	26,011	15	26,175	28	.... .	17	26,953	40
Essex	4,553	..	9,175	..	16,817	7	25,211	35	32,697	48	46,962	87	.... .	46	60,203	86
Kent	2,243	..	8,467	..	17,469	26	31,183	34	40,634	45	54,310	56	.... .	38	63,620	98
Lambton	.. .	..	.. .	..	10,815	18	24,916	16	38,897	28	52,034	66	.. ....	53	59,500	76
Huron	...	..	2,969	..	15,399	12	44,632	37	66,165	36	76,526	74	.....	66	72,380	81
Bruce	.....	..	.....	..	3,515	..	27,499	19	48,155	10	65,218	61	.....	54	70,021	87
Grey	.....	..	.... .	..	12 089	10	36,391	26	57,352	18	70,539	36	.....	39	77,187	87
Perth	...	..	1,402	..	15,545	..	38,083	..	46,536	15	53,693	45	.. ....	27	56,052	62
Simcoe	763	..	9,687	..	23 710	13	38,983	41	56,762	25	74,803	58	.... .	64	77,743	117

* Includes Haldimand.

Death Rates per 1,000 from Consumption in groups of Counties.—Table B.

Brant, Norfolk, Elgin: 1851.....1.3; 1861.....1.14; 1899.....1.22

Middlesex, Oxford, Waterloo: 1851..... 0.7; 1861.....0 8; 1899..... 1.1

Welland, Lincoln, Haldimand: 1851 .... ..1.3; 1871.....1.2; 1899.....1.3

Essex, Kent, Lambton: 1861.....1 06; 1881.....1.40; 1899 .....1.3

Bruce, Huron, Grey: 1861..... .6; 1871..... .3; 1889..... .9

Wellington, Peel, Halton: 1861..... 1.03; 1881.....1.1; 1891.....1.1

Perth, Simcoe: 1871.....0.3; 1881 .....0.9; 1899.....1.3

Turning, then, to our figures, as tabulated, the first thing we notice is that the counties fall roughly into several groups as regards periods of settlement. In the absence of any mode of transportation, other than water, we would expect and do find the counties along the Great Lakes, the scenes of our first colonization. One notable exception to this exists in Brant Co., with Haldimand, owing to the great tract of land given to the Six Nations, on the Grand River, in 1783, and of the establishment of settlements on the fine tract of land about the Mohawk village at Brantford, and the beginning of surveys thereon as early as 1800, and of Burford Tp westward in 1797. The open, semi-prairie character of the Burford Plains and their warm gravel soils would seem to explain this early settlement.

By 1850 Brant was wholly settled. Norfolk and Elgin largely so. Similarly Welland, Haldimand and Lincoln there being as early as 1837 a complete series of dams and locks up as far as Brantford on the Grand Middlesex, Oxford and Waterloo had relatively fewer settlers before 1840, but filled up rapidly in the next decade of enormous immigration, and excepting western Middlesex was fully settled by 1861.

The flat, clay lands of Essex, Kent and Lambton had, owing to their water fronts, early settlements, but not till 1871 can they be said to have been fully taken up.

Halton and Peel were practically settled by 1851, but Northern Wellington was not fully taken up till after 1861.

Simcoe had early settlement owing to its being reached readily by Yonge street and Lake Simcoe, but its great extent prevented its full settlement before 1871. Wentworth was fully settled by 1850.

The counties of the north-west, Huron, Grey, Bruce, and Perth, owing both to their great distance from Lake Ontario and the great holdings of the Canada Co. were settled latest of all. Not more than a third of Huron and Grey were settled by 1850, and almost half of Bruce, and settlement was not completed even as late as 1871.

In the grouping of counties I have calculated roughly the death rates per 1,000 from consumption from returns made either in the census or in the report of the Registrar-General. In some years it would seem as if the returns were not very well made; but we must take them as we find them.

The first fact noticed is that the rate stands for two districts high from the earliest period. The first is that of the old counties of Lincoln, Welland and Haldimand, and the other is that of Essex, Kent and Lambton. The history of the settlement of the two areas is different, the first being fully settled in 1851 and the other was represented at that time only by a rim of settlements. By this time, too, Brant and its groups had become old settlements. Now, what seems to be shown by the figures is that, especially in the Niagara and Brant groups, time enough had elapsed to have established a number of consumption centres either in families or in houses, and that while the rate of mortality in these two groups differs for the reasons of varying soils, yet both show that in them the disease had reached a degree of prevalence as great practically, or greater than is now seen. A decade or two later the Oxford and Waterloo group show the same seeming tendency to reach a point of notable prevalence of the disease when they had become old settlements. On the other hand, in these same years, when Huron, Grey and Bruce had scarcely a settler or began to be filled up, the disease had barely a foothold, but later as they attain in 1881 the age of old settlements, we see their death rate from this disease notably rise. The same is noticed for the Wellington and Perth group, and later in the County of Simcoe. Without attempting to make too much of the figures, I believe we have in them an illustration of the effects of several causes operating together which have shown a definite tendency towards an increased death rate from this house-disease when our new settlements became fully settled.

These several causes would seem to be

1st. The fact that usually it is the young, rugged men who go out as settlers, at times, alone, at times, with families.

2nd. That especially amongst settlers from Europe, it was usual in the early years for the women to labour more or less constantly in the fields.

3rd. The primitive character of the houses, small, not closely built and with fireplaces constantly ventilating the rooms

4th. The absence of centres of the disease.

Gradually a change has come over our population:

1st. The young men have grown older and here and there one has broken down in health and become a centre of infection.

2nd. They have become well to do, have built close, warm and good houses, but as a rule heated with stoves, or perhaps hot-air furnaces, with very imperfect ventilation.

3rd. The females of the household become, as a rule, housed up all the winter through, owing to the inconvenience often of going out in the deep snow and walking as may be done in town.

4th. Perhaps to a partial absence of means of mental stimulus and healthful excitement, both of which undoubtedly play a part in maintaining bodily vigor. Some physicians have thought that perhaps the cause of the physical declension so often seen has been in the exhausting character of the labors of these early settlers and the too early setting of the boys to assist in the heavy labor of clearing the forest.

Whatever factor has been the most important it would seem that there can be no doubt but that the races which have come in have not in all cases maintained their native vigor: while on the other hand the figures would seem to prove that in the best counties a period does come when the standard of living, the construction and conduct of the houses and the intelligence of the people has reached a point where this disease would seem to actually tend to decline. I have heard it remarked by physicians who have practised many years in our western counties that they have not been able to understand

how it happens that the great stalwart sons and daughters of many a Scotch or Irish family have gone one after another into consumption. In my experience this has not limited itself to these classes, but I think it is probably equally true in families like those of Welland and Lincoln being largely from the then frontier States of the Union.

I am inclined to think that while the process of acclimatization of persons from Europe may be a point of some importance as an explanation of the apparent facts I have stated, the difficulty lies principally in the artificial climates or "house atmospheres," which with the nature of the food and the character of the cooking have a daily bearing upon the hygiene of living of notably greater importance than the difference in climate between northern Europe and Canada. Indeed, as a matter of fact, there is no climate to which an inhabitant of the British Isles can emigrate which has so many qualities common to both countries as has old Canada.

It is the sanitation of the home and of daily life that in my opinion counts more in this so-called disease of house life than all other influences combined, this of course including the methods for dealing with cases of consumption when they do occur through infection in a family.

PART III.

ANNUAL REPORT OF LOCAL BOARDS OF HEALTH.

BRANTFORD.

REPORT OF MEDICAL HEALTH OFFICER.

BY F. G. E. PEARSON, M.D.

To the Chairman and Members of the Local Board of Health:

GENTLEMEN,—I herein submit to you the following report of the Health Department for the year ending Oct. 31, 1900.

Mortuary Statistics.—Excluding for the purposes of this report still births, 219 deaths have been recorded at the Registrar's Office during the past twelve months, as compared with 239 for the corresponding period the year previous, which, with the estimated population of the city as taken from the assessor's returns of 16,314, gives us a mortality rate of 13.43 per thousand.

Among the causes of death are to be found:

Typhoid fever and malarial typhoid 13, of which 2 were cases included in the last year's report, 2 outside cases.

Measles	1	Cholera Infantum	13
Whooping Cough	1	Meningitis	2
Pneumonia	12	All other causes	143
Tuberculosis and Phthisis	34		

Ages under 1 yr., 51; under 5 yrs., 62; over 60 yrs., 64; over 80 yrs., 16.

Contagious Diseases.—Including all classes of contagious diseases occurring in the city, there were 216 cases this year, as compared with 290 cases for the preceding twelve months, a decided decrease in almost every class, and were as follows:—

Smallpox.—During the year we were called upon to deal with one case of smallpox developing in a patient, who, the day or so previous had arrived home from Cleveland where he had been for some months, but thinking he had the la grippe came home for a rest; but unfortunately it turned out to be a typical case of small pox, which, as soon as known, was quarantined, and which, had it not been for the thorough, prompt and determined action on the part of the Board and officers in dealing with the patient and those with whom there was any possible danger of contact, I fear it might have been much more serious.

Scarlet Fever.—Although the cases of scarlet fever during the past year were of a very mild type, in fact so much so that the first cases, in a group, often were overlooked until infection had shewn itself in others of the family, or in children at school, where the child continued to attend, and also with the difficulties of home isolation where one after another of the family contracted the disease, we were fortunate in having but 59 cases with no fatalities, as compared with 110 cases with 4 deaths for the year before, and which number will be further reduced when the Isolation Hospital, now under way, is completed.

Typhoid Fever.—During the year 124 cases of typhoid fever and fevers have been reported at the office, 12 of which cases were traceable to outside sources of infection, leaving actually for the city 112 cases with 9 deaths, as compared with 152 cases with 16 deaths for the corresponding period the year previous.

The monthly record of cases was as follows, viz: Nov. 4, Dec. 3, Feb. 1, July 12, Aug. 27, Sept. 34, Oct. 30; while the distribution as to wards was: Ward 1, 36; Ward 2, 27; Ward 3, 6; Ward 4, 13; Ward 5, 30. Outside source, 12. And although there was a considerable decrease from the number of cases last year, yet there remains considerable that the Board can do to further reduce the prevalence of the disease in certain portions of the city, especially where the water supply is from wells, and where no proper means of sewage disposal and drainage exists; for no more striking illustration of this can be seen than that given in the above report in Ward 3, where up to six years ago when wells were the common source of drinking water, about 50 per cent. of the cases of typhoid occurring in the city was in this ward but since the action of the Board of Health at that time, in abolishing these wells, the percentage has been reduced almost to 5 per cent., and likewise is the same reduction seen in other parts of the city where public supply has been substituted for the wells. For noting the percentage of cases using the different water supplies, we find:

Well water users	71	City water users	20
Well and City users	21	Outside sources	12

And this is made the more important since $\frac{2}{3}$ of the city is supplied by the public supply, which, from repeated tests, both at the local office and by the Provincial bacteriologist, proves invariably to be of a very high standard of purity, while that from wells is almost universally polluted.

Therefore I would again advise that not only should such portions of the city as Homedale, West Brantford, Eagle Place and eastern portions of Wards 4 and 5 be supplied with a public sewerage system, but also that the Board order all wells closed in these and other infected localities, and to this end I recommend that the list of wells that follow in the Sanitary Inspector's report be passed upon and ordered closed since they have been tested and found polluted with organic matter, or sewerage, or both.

Diphtheria and Croup.—During the past year we have had but 7 cases of diphtheria and croup, with 1 death, as compared with 20 cases, 2 deaths, last year.

Of measles, chickenpox, whooping cough, etc., 37 cases with 2 deaths have occurred.

Tuberculosis.—Although Tuberculosis is not included among the list of infectious and contagious diseases to be particularly dealt with by the Board, yet from the increasing number of deaths that are annually occurring from it, I think more than passing notice should be taken of this disease by the Board, for it is now conceded to be truly infectious, and which produces a death rate of almost double all other contagious diseases together; therefore I bring the matter up that patients and those who have charge may use every effort to thoroughly disinfect all discharges, &c, and that in case of death, the premises should be thoroughly disinfected. And secondly, because at present, we have no proper means for the treatment and isolation of these cases, many of which, in the later stages of the disease, find their way to the hospitals to mingle with other patients of lowered vitality, who may be susceptible to the contagion. Therefore, I think until the city has some sanatorium, for such cases, this Board should confer with the Hospital Board and see if a couple of wards could not be set aside in the present extension for this class of patients.

Garbage System.—For years past the Board has seen the requirement for two means of checking contagious disease; the one being an Isolation Hospital, which I am pleased to learn will soon be under course of construction; the other was that of a systematic means for the collection and disposal of garbage and house refuse, to which I wish this Board to again call the attention of the Council, and try to have inaugurated (upon the plans developed by the Sewerage and Garbage Committee) not later than January, 1901.

All of which I respectfully submit for your consideration.

Report of Sanitary Inspector.

GENTLEMEN:—The following is a report of the Sanitary work for the past 12 months

House inspections 470.
105 notices served for contagious diseases.
125 notices to make sewer connections.
111 notices to close wells.
90 notices served on city contractor.
44 privy pits, notices served.
25 dry earth, notices served.
67 gen. nusiances, orders served.
61 pits ordered cleaned and abandoned.
38 dry earth closets ordered cleared regularly by contractor.
50 dead animals removed.
15 summons served, and prosecution made in case of neglect to follow orders issued.
Over three hundred wells, water samples taken, and tests applied.

Outside those already condemned, the following are considered unfit for use:—

T. Truss, 104 St. Pauls Ave.
C. Brittanc, 109, 111 St. Pauls Ave.
T. Spence, 35 Victoria St.
Mr. McNeesh, 172 Albion.
J. Kerr, 28 James.
Mr. Strachan, 255, 287 Wellington St.
Mr. Fowler, 127 Eagle ave.
Mr. Scham, 193 West Mill.
Mr Boulds, 71 Sheridan.
Mr. G. Lambden, 70 Superior.
J. Glesson, 157 Albion.
Miss Lows, 76, 78 Alfred.
Mr. Passmore, 128 Erie Ave.
J. Savage, 12 Ann.
J. Croom, 15 Ann.
Mrs. Bellhouse, 275 Darling
P. Cahill, 158 and 160 Albion.
E. Mires, 179 Albion.
J. Fitzsimmons, 184 Albion.
Mrs. E. Hollinrake, cor. Albion and James.
J. Lang, 165 Albion.
Mr. H. Whitehead, Usher Place.
Jno. Play, Princess.
Judge Jones, 5 to 17 Main.
Mr. Ramsay, 27 Mohawk.
——— 268 Wellington.
Mr. Tipper, 61 Northumberland.
J. Hamblin, 5 Fair Ave.
Crandall, 51 Mohawk.
Ed. Denton, 198 Brant Ave.

(Sgd.) J. A. CHAPMAN,
SANITARY INSPECTOR

BELLEVILLE.

Report of Medical Health Officer.

By R. Tracy, M.D.

To the Members of the Local Board of Health :

Gentlemen,—I have the honor of presenting the report of the sanitary state of Belleville for the year ending November 1st, 1900.

The Sanitary Inspector made his usual inspection of water closets, yards and cellars in May, and occasional inspection when required during the summer.

The city has been fairly clear of infectious cases since April, having stamped out the scarlet fever which was almost epidemic through the Province in the fall and winter of 1899. The Board purchased a formaldehyde generator and thoroughly disinfected the clothing and rooms of all infected houses. We had in all reported 89 cases of scarlet fever, with 4 deaths ; 5 cases of diphtheria, and one death ; no cases of measles ; about 40 cases of whooping cough, no deaths; and of typhoid fever 14 cases and 3 deaths. Twelve of the cases were contracted out of city limits, and I have not had a case of scarlet fever reported for the past three months, and the city is entirely free from it and I trust will remain so. I made two examinations of milk during the summer and found it up to standard in butter fat. I may say that cow byres are inspected when necessary and anything found wrong was immediately attended to. In July I received a telegraph from the medical health officer stating that a man who was in Belleville one week from time of leaving to return had developed smallpox. I wired asking name of parties he had stopped with when here ; having got reply I at once placarded house, had all clothes used by party on bed thoroughly fumigated by formaldehyde, every room in and clothing of all kinds was treated in same manner, and vaccinated all in the house and all who as far as I could ascertain had visited them, placed house under quarantine and waited results, with the hoped result that no case occurred. The party if he had smallpox contracted it in Rochester and we were fortunate enough for him to return home before developing. I may say that I have noticed that smallpox has been prevalent in a great many parts of New York for the past year and it seems to me that some precautions ought to be taken at Charlotte particularly during the season of navigation. Belleville has no less than five steamers calling here from Rochester every week. I think the Provincial Board should look into this question.

Improvements are gradually being made in our sewerage system ; wells are being closed up and cess pits going out of existence and dry earth closets built in their place. Consumption though seems to be on the increase and I think steps should be taken to build sanitoriums, for such cases the northern part of this county would be an ideal place for one, and I hope soon to see one established. I notice also that more deaths occur from carcinomæ than formerly, and journals both from Europe and America mention the fact. One thing I would like to draw your attention to is that medical health officers have now to initial every death certificate, for which they get nothing. I think that a small fee should be paid by the Government to the M. H. O. for such work, and also the Board should draft a form to be used on railways in shipping bodies mentioning whether contagious or not, something like the State Board of Health of Michigan now in use here on the G. T. R.

HAMILTON.

Report of Medical Health Officer.

By Isaac Ryall, M.D.

To the Chairman and Members of the Local Board of Health :

Gentlemen,—The sanitary condition of the city for the year ending 31st October, 1900, was as follows :

Three thousand four hundred and seventy-three cases of contagious diseases were reported and duly registered at the health office ; this large number was due to an epi-

demic of measles which commenced early this year; 3,041 cases of measles were reported with 11 deaths, the latter I consider to be very short of the number of deaths due to this disease, probably they were registered as deaths from pneumonia or bronchitis; one physician has stated that he knew of 30 deaths caused by measles.

Ninety cases of diphtheria were registered with 19 deaths, this gives 12 cases less than in 1899 and 70 cases in 1898.

Scarlet fever cases number 145 with 6 deaths; in 1899 there were 123 cases reported; and in 1898, 214 cases.

Typhoid fever has been prevalent over the country, but we have had fewer cases in Hamilton than in 1899, which then numbered 74; this year 61 cases have been reported with 11 deaths; in 1898 only 37 cases were reported.

Several cases of typhoid have been admitted to our hospitals from surrounding districts which are not included in this report.

The other contagious diseases registered were: 93 cases of chicken pox, 11 of mumps, and 32 of whooping cough, with one death; this mortality is as unreliable as that from measles.

As a good deal of annoyance occurred last year in regard to allowing children to return to school after infectious diseases, I desire to state that the time which should elapse before any children from the houses affected should be re-admitted to school was fully discussed by the members of the Hamilton Medical and Surgical Society some years ago and regulations were made by that body for guidance which have been carried out ever since. I think that rules on that matter should emanate from the Provincial Board of Health for general adoption in all schools either public or private.

Our citizen mortality numbers 726—males 371, females 354. The assessors' enumeration gives us a population of 52,665; this shows a death rate of 13 78 per 1,000.

I expect that the Dominion census will give a much larger population.

Seven citizens died while absent from the city and whose bodies were brought back for burial and are included in our mortality.

Several deaths have occurred from accidents, including burns, scalds, drowning, railway, smothering, etc., and one from suicide.

Seventeen deaths were recorded of inmates of the House of Refuge, 7 at the Home of the Friendless, 2 at the Aged Women's Home, and one each at St. Mary's Orphanage, Girls' Home, Rescue Home and city jail.

Several complaints have been made of the muddy condition of the city water. If the cause was due to the condition of the reservoir or filtering basins, does it not seem strange that the whole system of water supply does not become equally affected at the same time? I have noticed at times at the City Hall the water from the tap become muddy while running and then become clear in a very short time.

I cannot attribute any of our sickness to muddy water, but would advise any of our citizens who suffer from it to make a flannel bag, attach it to the tap and allow the water to filter through it; it will catch all the solids. The bag is easily made and cheap enough to reach all conditions of the people. The present inconvenience I expect will soon be remedied.

The bi-weekly scavenger system during the summer months seems to have given satisfaction.

Very frequent complaints have been made of some scavengers; this is a matter which should be remedied. The complainants blame the scavengers and the latter blame the people. Road making has interfered somewhat with scavengers in some districts.

I append the Health Inspector's Report, also the usual forms showing how diseases and deaths are distributed by wards.

Report of Sanitary Inspector.

Hamilton, City Hall, Nov. 13th, 1900.

To Dr. Ryall, Medical Health Officer:

Sir,—Below please find synopsis of the work done by your three inspectors from the 1st day of November, 1899 to the 31st day of October, 1900, inclusive.

Yours respectfully,

JOHN PEACOCK.

Number of	inspections made	5,320
"	privy vaults notified to be cleaned	493
"	" permits issued for new ones	7
"	" permits issued to contractors to clean	1,000
"	" abolished	44
"	cesspools notified and cleaned by contractors	28
"	" permits issued for new ones	5
"	" abolished	7
"	dry earth closets notified to clean	26
"	sewer connections to make	20
"	" found defective	104
"	foul drains to abolish	14
"	stagnant water to abolish	20
"	dirty premises to clean	5
"	other nuisances to abate	601
"	houses placarded for infectious diseases	173
"	houses fumigated by inspector	215

Milk Inspector's Report.

Number of	licenses issued	213
"	samples tested	855
"	dairies inspected	176
"	of dairies found in fair condition, notified to clean	3
"	of shops inspected	131
"	of cow byres found in good condition	81
"	" " fair condition	64
"	" " dirty condition	1

Yours respectfully,

L. A. MacDonald,
Milk Inspector.

Scavenger Work.

Work done by your five scavengers:

Number of	team loads of garbage and refuse collected	9,595

Burnt at Crematory.

Number of	dogs	351
"	cats	143
"	fowl	65
"	barrels and boxes of fish	21
"	loads of used rags, etc., from the city hospital	54
"	beddings, etc., from infected houses	15
"	pigs	2
"	boxes of wild fowl	4

A.D. 1900. Table showing Mortality by Cemeteries.

Fiscal year—Nov. 1, 1899, to Oct. 31, 1900.	Interments Hamilton cemetery.			Citizens buried in Hamilton cemetery.			Citizens buried in R. C. cemetery.				Citizens of all creeds buried elsewhere.				Combined city mortality.			Total still born.
Months.	Total burials.	Non-resid.	Still born.	Citizens.	Males.	Females.	Citizens.	Males.	Females.	Still born.	Citizens.	Males.	Females.	Still born.	Citizens.	Males.	Females.	
November	47	10	3	34	19	15	6	3	3	1	5	3	2	....	45	25	20	4
December	52	7	5	40	25	15	10	7	3	....	6	1	5	....	56	33	23	5
January	40	8	1	31	16	15	10	6	4	....	5	3	2	....	46	25	21	1
February	39	4	3	32	12	20	6	5	1	....	6	2	4	....	44	19	25	3
March	47	8	3	36	20	16	16	8	8	1	9	3	6	....	61	31	30	4
April	76	9	8	59	29	30	14	6	8	1	9	4	5	....	82	39	43	9
May	49	4	6	39	20	19	15	8	7	....	13	6	7	1	67	34	33	7
June	48	2	5	41	25	16	6	5	1	....	4	4	....	....	51	34	17	5
July	58	2	4	52	25	27	18	6	12	1	18	6	12	1	88	37	51	6
August	62	6	4	52	26	26	8	6	2	....	6	2	4	....	66	34	32	4
September	48	4	1	43	21	22	9	6	3	....	8	5	3	....	60	32	28	1
October	49	6	3	40	21	19	15	7	8	1	5	1	4	....	60	29	31	4
	615	70	46	499	259	240	133	73	60	5	94	40	54	2	728	372	354	53

1900. Deaths by Wards.

—	1	2	3	4	5	6	7	Total.
November	4	3	11	11	6	4	6	45
December	3	9	11	4	6	14	9	56
January	4	7	8	6	3	8	10	46
February	6	5	6	7	3	6	11	44
March	2	5	6	7	17	13	11	61
April	5	8	14	15	12	17	11	82
May	8	8	9	13	6	15	8	67
June	1	6	6	13	5	8	12	51
July	11	7	7	12	12	18	21	88
August	4	5	7	14	14	10	12	66
September	6	5	9	2	8	12	18	60
October	3	6	8	7	10	16	10	60
Totals by Wards	57	74	102	111	102	141	139	726

Special Diseases—years compared.

	1898.	1899.	1900.
Diphtheria	162	102	90
Scarlet fever	214	123	145
Typhoid	37	74	61

Special Diseases by Wards.

	1	2	3	4	5	6	7	Total.
Diphtheria	14	14	7	15	7	21	12	90
Scarlet	29	11	27	31	5	19	23	145
Typhoid	6	9	6	7	1	8	24	61
	49	34	40	53	13	48	59	296

Contagious Diseases by Months.

—	Diphtheria.	Scarlet.	Typhoid.	Measles.	Chicken pox.	Whooping cough.	Mumps.
November	10	22	5	2	1	16	.....
December	17	12	2	4	1	2	.....
January	11	24	.....	5	25	2	1
February	6	15	1	70	19	1	.....
March	9	26	2	634	20	4	2
April	6	16	1	1,270	13	1	.....
May	3	13	2	1,000	6	.....	4
June	6	5	1	47	.....	.....	.....
July	4	7	1	7	1	.....	2
August	5	.....	10	2	.....	.....	.....
September	3	.....	28	.....	3	1	1
October	10	5	8	.....	4	5	1
	90	145	61	3,041	93	32	11

Mortality of Children under 5 Years.

—	1	2	3	4	5	
November	10	4	1	2	1	18
December	9	1	2	1	2	15
January	7	2	.....	.....	1	10
February	7	2	1	1	.....	11
March	12	.....	2	1	1	16
April	17	9	.....	.....	.....	26
May	16	2	.....	1	.....	19
June	8	4	1	.....	.....	13
July	22	.....	2	.....	.....	24
August	27	2	.....	2	.....	31
September	13	2	2	.....	1	18
October	11	2	2	2	.....	17
	159	30	13	10	6	218

LONDON.

Report of Medical Health Officer.

By Thos. V. Hutchinson, M.D.

To the Chairman and Members of the Board of Health :

Gentlemen,—I have the honor to submit my annual report upon the sanitary condition of the city and other matters relating to the public health for the year ending November 15th, 1900.

Five hundred and ten deaths occurred during the year, exclusive of 18 still-born, which are not counted in mortuary statistics.

Consumption, as usual, heads the list with 60 deaths. Pneumonia comes next with 51, and organic disease of the heart with 23. Paralysis 18 and cancer 17, the latter disease still being on the increase in Ontario.

There were only 16 deaths from cholera infantum. Nine deaths were caused by violence, that is, railroad accidents, hanging, lightning, gunshot wounds, and several by poison. Twelve deaths were caused by premature birth.

The very satisfactory number of 41 deaths were due to old age. The ages ranging from 85 to 99 years, being the largest number reaching 85 and over in ten years.

The death rate for the year was 13 in every 1,000 of the population. This is not quite as low as last year, but it must be remembered that our hospital facilities are better and a larger number of people from outside the city came in for treatment.

Two hundred and eighty-five cases of infectious diseases, exclusive of consumption, occurred during the year, namely :—Scarlet fever 151, typhoid fever 75, diphtheria 59. Of the 285 cases 212 were attended at Victoria Hospital. The deaths from the whole number were as follows :—Typhoid fever 9, diphtheria 6 and scarlet fever 6. This is the lowest number of deaths from infectious diseases in the city in eleven years, and may be taken as evidence of its sanitary condition.

The number of premises, closets and yards reported unclean is also less than last year, owing partly to the larger number connected with the public sewers, and the citizens more willingly co-operating with the health authorities in keeping their premises clean.

In the spring there were 8,661 places visited by the sanitary inspectors ; 1,799 were reported unclean, as compared with 2,163 last year, a reduction of the number of unclean premises of 364.

The population of the city is now 39,050.

The quality of milk supplied the city is still good. The average percentage of 213 samples of market milk examined during the year, exclusive of 23 samples examined for private persons, was over 4 per cent. The samples were cleaner than in former years, and to this and the good quality may be attributed the small number of deaths of infants from derangements of the digestive organs. Nine thousand quarts are sold daily in the city. Two samples had been watered, one had cream added, and one buyer was unfit for dairy purposes by reason of uncleanliness. One hundred and forty persons are employed in supplying the city with milk.

In former reports I have referred at some length to the rapid increase in the number of deaths from tuberculosis in its various forms, and endeavored to show the contagiousness of the disease and the urgent necessity, if we desire to lessen and stamp out as far as in our power lies this, the most dreaded of all diseases, not excepting small-pox to insist on complete isolation.

It should be a matter of great satisfaction to boards of health, physicians and all thinking men, that in its wisdom the Ontario Legislature at its recent session passed an act whereby municipalities may erect sanatoria for consumptives and receive Government aid in purchasing lands and the erection of buildings to an extent not to exceed $4,000, and also a promise that towards maintenance the sum of $1.50 per week would be granted for each patient.

It has been clearly proved in Germany, a country in the van of medical progress, that the only satisfactory method by which this disease can be lessened, and as far as

possible stamped out, is to erect sanatoria at various centres and conduct them in accordance with the strictest sanatoria precautions.

It is a matter for congratulation that the citizens and local physicians have taken up this subject in earnest, and that the city and county councils have heartily endorsed the matter and have referred the subject to the favorable consideration of incoming councils.

All of which is respectfully submitted.

OTTAWA.

Report of Medical Health Officer.

By A. Robillard, M. D.

To the Chairman and Members of the Board of Health.

Gentlemen,—I beg to lay before you the Annual Report of the Health Department, for the year ending October 31st, 1900. In so doing I am pleased to note the fact that the past year has been one of harmonious, steady and earnest endeavor on the part of your Board, in so far as lay in their power, to cater to the needs of the city, in a sanitary point of view.

I am also pleased to record the fact that notwithstanding the very unusual circumstances in which was placed a large section of the community, after the disastrous fire of last spring, the public health was not to any very large extent affected thereby, thanks no doubt, to the prompt and effective measures adopted to relieve the pressing needs of suffering fellow beings.

The total mortality for the period comprised in this report, shown in Table I, here appended has been from all causes 1146 exclusive of still births; or 27 deaths less than last year notwithstanding the natural increase of our population.

With our estimated population of (60,000) sixty thousand this gives us a death rate of 19 and a fraction per thousand; a very fair showing in my estimation. 490 deaths out of the total mortality were of children of five years of age and under including the death roll of the House of Bethlehem for the same period, the records of which institution appears in Table IV here attached.

Though at no time during the year were infectious diseases prevailing to any alarming extent, there has been however a larger number of these cases than during the previous year, as evidenced by the records of the isolation hospitals in Table II here appended; 408 cases were isolated in these hospitals during the past year; and 52 of these were from surrounding suburbs outside of the city. To this increase in the number of cases may also be ascribed the unusually large number of fatalities resulting from infectious diseases due to a certain extent to the conditions arising out of last spring's fire as may readily be conceived as following the unavoidable overcrowding of two or more families in one domicile; and then again as resulting from the fact that in many instances families had to shelter themselves as best they could, under tents or in buildings unfit to properly protect them against the weather. To the same causes may be ascribed disease of the respiratory organs, such as pneumonia and bronchitis recorded in April and May last.

Aside from diarrhoeal and other diseases incidental to dentition, which during the summer months are fatal to so many little ones, chiefly as a result of improper feeding both in quality and in quantity by far the largest factor in our death roll is tuberculosis; 112 victims succumbing to that scourge of the human race, during the past year. That typhoid fever has been somewhat more prevalent than it should for a few years past is now to a certain extent, at all events accounted for in the fact that our water supply was not what it should have been owing to the very defective condition of the intake pipe discovered only this past summer, but in all liklihood existing for a number of years.

Among the many subjects which during the past year have engaged the attention of your Board, the most important possibly, was the sorely felt need of this city for an isolation hospital adequate to meet the requirements of the community. Your earnest effort to secure the best available site possible and the maturing of plans so as to enable the

Corporation to proceed with the work of erection next season, should have the approval of all well thinking people. Another subject which to a certain extent also engaged your attention was the inauguration of a proper scavenging system, one of the most pressing needs of the city. To a very large majority of our people, the collection of and proper disposal of garbage and house refuse is undoubtedly a question of vital importance. However regrettable, for reasons beyond the control of your Board the realization of this sorely felt need had to be deferred. That next year's Board will find means to inaugurate such a system is a wish in which most people will concur. Endowed in the near future with a well equipped isolation hospital ; with a system of scavenging in accordance with the laws of hygiene; with a more wholesome supply of water for domestic use ; with the completion of the main sewer and subsidiary drains, enabling the people in all parts of the city to improve the sanitary conditions of their surroundings by the removal of the evil smelling privy pit and cesspool ; with purer supply of milk resulting from the improved methods of storage treatment and mode of delivery to be inaugurated early next spring by the Dairy Association, Ottawa will be well in the vanguard of sanitation, and one of the healthiest cities on the Continent to live in. All these are not as yet accomplished facts it is true, but they are coming and will be realized before the second year of the twentieth century has been rung in.

The quantity and importance of the work done in the sanitary branch of this Department is but fairly represented in the Sanitary Inspector's comprehensive report, to which I beg leave to refer you for all the details of the work more immediately under his control.

In conclusion, I deem it but just to acknowledge the valuable aid given me by the Sanitary Inspector in carrying out the work of this Department, and it affords me much pleasure to bear evidence to the pleasant relations existing throughout the year between the Board and the officials.

Table I.

Total mortality from all causes for the year 1900.

Diseases.	November.	December.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	Total.
Apoplexy	1	5	1	1	3	1	3	....	....	1	...	2	18
Appendicitis	...	....	....	....	1	....	....	1	....	....	....	..	2
Asthma	1	1	....	1	2	....	..	....	....	1	2	....	8
Anæmia	....	....	....	....	....	....	....	....	1	....	1	....	2
Abcess	2	2	....	....	1	....	2	....	.. .	....	....	....	7
Aneurism	1	....	....	....	....	....	....	....	....	....	....	....	1
Alcoholism	....	....	....	1	....	....	1	....	1	...	....	....	3
Accidental, by fall	....	....	1	2	....	....	1	...	1	1	1	....	7
" Drowning	....	1	....	....	....	....	1	....	2	6	1	....	11
" Burns	....	....	....	1	....	2	...	.. .	1	1	....	....	5
" Explosion	2	....	....	....	....	....	....	....	....	....	....	....	2
" Railroad	....	....	1	....	....	....	....	....	1	1	....	1	4
" Poison	....	...	....	.. .	....	1	....	....	....	....	....	....	1
" Elevator	....	....	....	....	.	....	....	....	....	....	1	....	1
" Suffocation	....	....	....	....	....	....	1	....	....	....	....	1	2
" Electriclty	....	....	..	....	....	....	....	1	....	..	....	....	1
Bronchitis	2	2	5	2	4	9	6	1	1	2	1	2	37
Congestion of lungs	1	2	1	....	1	1	1	1	1	1	2	2	14
Cerebritis	....	....	2	1	....	...	1	....	2	....	....	1	7
Cystitis	....	....	....	1	2	1	1	1	2	....	1	....	9
Diphtheria	4	4	6	3	5	4	3	1	3	....	4	....	37
Diabetes	....	....	2	....	1	1	....	....	....	....	....	....	4
Dropsy	....	....	2	....	....	....	....	....	1	1	....	1	5
Dysentery	....	....	....	....	....	....	....	...	2	....	....	....	2
Diarrhœal and other diseases incidental to dentition	4	5	14	7	23	11	12	40	63	44	18	9	250
Eclampsia	....	....	2	.. .	....	1	....	2	....	. ..	.	...	5
Epilepsy	....	....	....	....	1	1	1	....	....	....	....	....	3
Embolism	....	1	....	....	....	2	....	....	....	1	....	....	4
Gastro Enteritis	5	1	1	1	3	....	1	2	1	3	1	....	19
Hemorrhage	3	2	....	....	....	1	1	....	....	1	....	..	8
Heart diseases	4	3	4	5	5	3	9	7	4	2	2	2	51
Hepatitis	....	3	2	....	2	....	....	1	....	1	2	....	11
Heart failure	....	1	1	2	2	1	....	2	1	1	..	1	12
Hydrocephalus	....	....	....	1	....	....	....	....	....	....	....	....	1
Infantile debility	4	6	2	6	6	4	12	4	1	4	....	2	51
Senile "	...	....	2	2	2	3	3	....	. .	....	3	....	15
Laryngitis	....	....	....	1	....	....	....	....	....	....	....	....	1
Congen. Malformation	1	....	....	....	....	....	1	....	....	1	1	....	4
Meningitis	1	5	2	1	2	3	4	2	12	3	2	2	39
Malignant Tumors	6	6	3	2	3	4	1	4	1	3	6	....	40
Nephritis	....	1	1	3	1	3	...	3	....	....	3	2	17
Neurasthenia	....	....	....	....	....	....	....	....	1	....	....	....	1
Old Age	3	5	1	10	7	8	4	6	5	3	4	2	58
Paralysis	2	1	1	3	3	1	3	4	3	2	1	4	28
Pneumonia	7	4	9	11	11	21	17	4	3	5	3	3	99
Peritonitis	4	1	1	1	3	1	3	3	....	.. .	5	2	24
Premature Birth	2	4	....	1	2	4	5	...	3	1	....	2	24
Pleurisy	....	....	....	3	1	....	2	....	....	....	....	....	6
Rheumatism	....	....	....	1	1	....	2	2	....	1	....	....	7
Scarlatina	....	....	1	1	1	1	2	1	2	....	...	1	10
Shock after operation	....	1	....	..	....	....	....	....	....	....	....	....	1
Scurvy	....	1	1	....	....	....	....	....	....	....	....	....	2
Syncope	....	..	....	....	....	....	....	1	....	...	1	....	2
Septicœmia	1	1	3	....	1	1	1	2	....	2	2	1	15
Typhoid Fever	3	1	....	...	2	....	1	1	1	3	4	3	19
Tuberculosis	8	8	8	10	11	14	13	10	8	11	7	4	112
Uræmia	....	1	1	....	....	1	1	....	....	.. .	2	1	7
Whooping Cough	....	....	....	....	....	....	....	....	....	3	4	2	9
Unknown causes	..	....	....	....	....	...	....	....	....	2	1	1	4
Totals	71	70	81	84	114	110	118	107	128	113	86	54	1,146
Exclusive of still births	9	7	11	8	10	7	5	9	6	4	5	4	85

TABLE II.

Showing number of cases treated in hospitals for infectious diseases during the year 1900.

	Protestant Annex.			R. C. Annex.		
	Diphtheria.	Scarlatina.	Tonsilitis.	Diphtheria.	Scarlatina.	Measles
Admitted during the year.	83	75	2	150	94	4
Discharged	74	72	2	135	89	4
Deaths	9	3		12	5	
	N.B.—19 of these cases were from outside the city.			And 33 of the above cases were from outside the city.		

TABLE III.

Showing number of infectious diseases reported during the year 1900

Diphtheria including croup	170
Scarlet fever	200
Measles	10
Typhoid fever	124
Total	504

N.B.—The above figures, in so far as typhoid fever and measles are concerned are not reliable. These diseases are not properly reported by physicians. Out of the total number of cases of typhoid fever reported 42 cases were from outside of the city.

TABLE IV.

Record of the House of Bethlehem for the year 1900

How disposed of.	No. of Cases.
Admitted during the year	218
Placed outside or returned to parents	112
Died during the year	84
Remaining in house on Nov. 1st, 1900	22
Total	218

REPORT OF SANITARY INSPECTOR.

To the Chairman and Members of the Board of Health.

GENTLEMEN,—I beg to submit for your consideration my Annual Report showing the work done in the Sanitary Department during the year ending ending Oct. 31st, 1900.

In addition to the work in tabulated form undermentioned there have been:

274 houses disinfected.
88 cards put up.
72 cards taken down.
14 drains tested for defective plumbing.
88 written notices to property owners, tenants and others, the balance being verbal.
8 summonses were issued, 4 being nonsuited and 4 convictions were obtained.
3521 privy vaults were cleaned.

Infectious Diseases —The disinfection of houses almost doubled that of last year owing to the outbreak of scarlet fever and diphtheria, which was assisted considerably in its development by the temporary structures occupied by those infected in the fire swept district.

Dumping Grounds.—The two dumping grounds owned by the city have received due attention, and the general absence of complaint certifies to the effective work being done.

Removal of Garbage.—There is a decided improvement in the conditions relating to the carrying of garbage through the streets of the city since the new regulations were enacted.

The Various Trades.—The inspection of the various trades which may become offensive has been continued, resulting in sanitary improvement in several establishments, and the closing up of business in two instances.

Dairy Farms.—I found that a number of the nuisances complained of in my last report were remedied, and I also noticed a marked improvement in the cleaning and grooming of the cattle, but a want of proper milk storage in winter separated from possible contamination from the dwelling existed in many cases.

Inspection of Yards and Premises.—The disastrous fire which swept a great portion of the west end of the city left a large number of nuisances of one kind and another exposed, and consequently necessitated a rigid inspection of the whole district, which was made and all nuisances abated, otherwise very little inspection of yards has been made owing to our small sanitary staff, but what has been done, together with the complaints registered at the Health Office requiring urgency, proves beyond a doubt the extreme need of a scavenging system.

Plumbing.—The very small percentage of complaints relative to defective plumbing registered at the Health Office the year previous, has still further decreased this year, which clearly demonstrates the substantial nature of the work done in this city.

Supervision of Ice Cutting.—The city being almost surrounded by water a circle of about 15 miles in length requires to be traversed to supervise the prohibited as well as permitted ice fields convenient to the city ; therefore, the new regulations enacted this year have been opportune : and their enforcement has prevented suburban dealers from bringing a quantity of ice of a doubtful character into the city.

In conclusion I wish to acknowledge with thanks the valuable aid I have received from the Chairman of the Board and the Medical Health Officer in the discharge of my duties I also willingly bear testimony to the effective work done by my sole assistant in the Sanitary Department.

Respectfully submitted,
(Sgd.) JOHN CAWTHRAY,
Sanitary Inspector.

TABLE I.

Classified list of nuisances under notice of the Department during the year.

Description of nuisances.	Reported by sanitary staff, tenants and others.
Refuse on streets, vacant lots, etc	73
Filthy premises	811
Water on streets, lots, etc	46
Illuminating gas	5
Offensive odors from sewer gas entering houses	17
" from other sources entering houses	53
Drains choked	24
Sinks untrapped or otherwise defective	2
Soil and waste pipes defective	30
Water closets broken or otherwise defective	2
Water service pipes broken	4
Roofs leaking	3
Water in cellars	67
Piggeries too near dwelling or otherwise unsanitary	5
Want of drainage	24
Offensive trades	7
	1,173

TABLE II.

Inspection of the various trades.

Name of trade.	Reported by Sanitary Staff.		
	No. of places inspected.	No. of nuisances found.	Trade closed.
Butchers' shops and premises	20	3	None.
Slaughter houses	5	None.	None.
Pork packers	3	1	None.
Junk dealers	4	2	1
Hide dealers	1	None.	None.
Tallow renderers	2	None.	None.
Dairy farms	19	5	None.
	54	12	2

Tabulation of Dairy Farms inspected.

Township.	Sample of water collected for analysis of well.	No. of premises inspected.	Privy too near cow byre.	Foul store room.	Pigs in cow byre.	Well too near byre.
Gloucester .... Nepean	1	19	1	1	2	1

TABLE III.

Inspections made to investigate the origin of disease, proposed drainage and other sanitary requirements

Areas and premises inspected.	No. of houses and premises.	Object of investigation.	Nuisances found.
Area including Division, Elm, Lorne Ave., Lloyd, Preston, Rochester, 1st Ave., Sherwood, Bridge, Ottawa, Queen St. west, Willow, Eccles, Spruce, Maple, Poplar, Pine, Middle, Somerset, Elizabeth, Perkins.	879	Garbage and other filth.	343
Friel, King, Perkins	32	Proposed drainage.	19
Isabella, Nicholas, Rideau, Victoria	4	Origin of scarlet fever.	4
MacLaren, Chapel, Cambridge, Church	4	Diphtheria	3
Kent, Concession, Elgin	3	Typhoid fever	1
Area including land immediately adjoining north and south side of aqueduct containing intake water service pipe from aqueduct entrance to pumphouse.		Refuse and other filth.	7
	922		377

TABLE IV.

Showing streets and number of places inspected as registered from November 1, 1899, to October 31, 1900.

Albert	24	Canal	2	Lewis	2	Queen St. W	72
Argyle	1	Division	81	Langevin	1	Rideau	25
Alexander	1	Dalhousie	16	Lorne Ave	59	Rochester	78
Anglesea Sq	1	Daly Ave	17	Lett	2	Russell Ave	4
Archibald	4	Duke	6	McKay	1	Rose	4
Alice	1	Dufferin	3	McGee	2	Redpath	8
Anderson	3	Elgin	5	McLeod	13	Raymond	2
Arthur	3	Eccles	10	McTaggart	1	Sherwood	73
Augusta	6	Elm	41	MacLaren	20	Sussex	13
Avon Lane	1	Ellen	3	Maple	44	Sweetland	13
Adelaide	1	Emily	1	Murray	22	St Patrick	23
Bank	53	Elizabeth	3	Mary	52	Slater	18
Bay	13	Friel	8	Metcalfe	7	St. Andrew	18
Boteler	3	Fourth Ave	10	Margaret	2	Stanley	15
Bridge	43	Florence	15	Maria	28	Sparks	15
Balsam	1	Flora	5	Middle	24	Somerset	85
Baird	2	Frank	3	Mutchmor	4	Stewart	8
Besserer	11	First	12	Marlborough	1	St. Joseph	2
Bell	10	Gloucester	19	Martineau	3	Spruce	53
Bolton	3	Gilmour	11	McKenzie	4	2nd Ave	16
Britannia	1	George	7	Nepean	19	Sidney	1
Broad	1	Gladstone Ave	6	Notre Dame	3	Theodore	6
Clarence	25	Goulbourne	2	Nicholas	18	Torney	1
Concession	11	Heney	1	Nelson	22	Third Ave	14
Cooper	22	Henderson	9	Ottawa	38	Turner	2
College Ave	6	Hill	1	O'Connor	12	Tackaberry	3
Cathcart	3	Isabella	5	Oregon	3	Union	2
Cartier	5	Idol Lane	1	Osgoode	1	Vittoria	4
Creighton	8	James	9	Preston	113	Victoria	21
Charles	1	John	3	Primrose	1	Water	42
Carling Ave	1	King	29	Papineau	1	Wellington	24
Cyrville	1	Kent	16	Perkins	13	Wilbrod	9
Church	12	Keefer	2	Percy	4	Waverly	6
Cumberland	13	Lisgar	18	Panila	1	Waller	4
Cambridge	14	LeBreton	9	Poplar	19	Williams	10
Catherine	1	Lochiel	1	Pinard	1	Willow	21
Centre	1	Lyon	5	Patterson	4	York	8
Chapel	15	Lloyd	49	Queen	12	Young	1
Cobourg	1	Louisa	1				

ST. CATHARINES.

Report of the Chairman of Local Board of Health.

By E. Goodman, M. D.

To the Mayor and Council of the Corporation of the City of St. Catharines :

Gentlemen,—In accordance with the requirements of the Public Health Act I have the honor to submit my report of the sanitary condition of the city for the year ending on the 15th day of November, A.D. 1900.

With the exception of a few sporadic cases of typhoid and typo-malarial fever, due to local causes, which have been developed within the last two or three months, the city is in an excellent sanitary condition, no scarlatina, diphtheria, measles, whooping cough or other zymotic contagious disease having been reported for several weeks. It would materially aid the Board in stamping out typhoid fever if physicians in charge of such cases would report on the probable cause of the attacks, stating whether in their opinion they were due to tainted and impure water or milk, or to sewer gases entering the houses in consequence of defective plumbing, or from cess-pools or foul privy vaults. From time to time attention has been called to the disgusting and unsanitary practice of expectorating in public vehicles, on the sidewalks near the precincts of the Opera House, the Post Office and other places of general popular resort. A by-law making it a punishable offence would soon put an end to this objectionable habit, which is looked upon as conducive to the spread of tuberculosis, owing to the diffusion in the atmosphere of the dried sputa containing the germs of that dread disease.

Complaints have been made to the Board of Health concerning the offensive odors arising from the decomposition of the refuse matters of the several canning factories doing business within the city limits. The Sanitary Inspector states that the managers of these canneries have taken steps to have the refuse removed from their premises every day as rapidly as it accumulates, but the parties who cart it away for fertilizing purposes too often delay to have it covered soon enough with earth and leave the fermenting masses to taint the atmosphere. The persons so offending have been warned by the Inspector in every case to abate the nuisance forthwith, and he informs me that in the majority of instances they have complied with his instructions.

Since my report was submitted to your honorable body last year the sewerage system of the city has been considerably extended, especially north of Welland Avenue, and I take pleasure in calling attention to the successful working of the automatic flush tanks, of which eleven in number have been installed in the following localities :

1. Geneva St. near St. Paul St.
2. Court St. at Centre St.
3. King St. near Court St.
4. James St. near Court House.
5. Church St. between Queen and Wellington Sts.
6. Queen St. near Church St.
7. Queen St. near St. Paul St.
8. Midland St. near North William St.
9. Ontario St. near Adams St.
10. Ontario St. near St Paul St.
11. Mary St. between St. Paul St. and King St.

A contract has been entered into with the Miller Automatic Flush Tank Co. to instal one more tank this year at the Junction of George and Louisa Sts. These tanks should be examined at least once every three months to remove any earth or rubbish that may collect within them and they should be treated whenever needed with a white wash or dressing of Portland cement, to preserve their impermeability and prevent the leakage of their contents.

The acting secretary, his assistant and the sanitary inspector have discharged their respective duties in a satisfactory manner and their reports are herewith submitted.

It will be observed that the number of deaths which have occurred in the city, from all causes, amounts to 175 for the year ending the 15th November, 1900. Deducting

from this number the deaths from old age, premature births, accidents and suicide, 31 in all, I find the rate of mortality, calculated upon a basis of population of 10,400 to be 13.8 for each 1000 of the inhabitants, which is a very satisfactory showing, and speaks well for the sanitary condition of the city.

To the Chairman and Members of the Local Board of Health of the City of St. Catharines.

GENTLEMEN :—Herewith I have the honor to submit the annual Statement of the number of deaths in the City of St. Catharines, from November 15th, 1899, to November 15th, 1900, and the causes thereof, also statement of the number of contagious diseases for the same period as per medical returns.

Deaths.

DISEASE.	No.	DISEASE.	No.
Cancer	6	Mania (senile)	1
Pneumonia	12	Sudden death	1
Consumption	18	Uremia	1
Typhoid fever	5	Nephritis	2
Scarlet fever	1	Drowned	6

Deaths.

DISEASE.	No.	DISEASE.	No.
Liver disease	2	Apoplexy	4
Shock from injury	1	Congenital weakness	1
Anæmia	1	Cerebral Hemmorrhage	2
Dropsy	1	Old age	5
Locomotor Ataxia	2	Goitre	1
Meningitis	2	Brain disease	4
Gangrene	2	Inflammation of kidneys	1
Paralysis	3	Bronchitis	5
Bright's disease	2	Disease of Larynx	2
Inanition	1	Obstruction of bowels	3
Measles	1	Malnutrition	2
Scrofula	1	Accident	5
Rheumatism	1	Inflammation of lungs	1
Cystitis	1	Erysipelas	1
Diarrhoea	1	Hepatitis	1
Peritonitis	1	Indigestion	1
Diabetes	1	Heat prostration	1
Marasmus	1	Cholera infantum	6
Dysentry	1	Spinal Bifida	1
Senility	4	Potts disease of spine	1
Enteritis	3	Enteric fever	1
Heart disease	19	Inflammation of bowels	2
Still born	8	Hemorrhage of lungs	1
Convulsions	8	Suicide by hanging	1
Total			175

Contagious Diseases.

REPORTED.	No.	DEATHS.	No.
Scarlet fever	20	Diphtheria	1
Diphtheria	4	Scarlet fever	1
Measles	126	Typhoid fever	5
		Consumption	18
		Measles	1
Total	150	Total	26

I have the honor to be,

Your obedient servant,

W. A. MITTLEBUGN,
Acting Secretary.

St. Catharines, Nov. 16th, 1900.

Report of Sanitary Inspector.

To the Chairman and Members of the Local Board of Health of the City of St. Catharines:

Gentlemen:—I have the honor to submit my annual report, as Sanitary Inspector to your honorable Board for the year ending 15th November, 1900, and say;

I have frequently visited the cow bryes, slaughter houses. livery and hotel stables, canning and other factories within the city, when necessary and have generally found them in a sanitary condition.

I have regularly tested the milk from the milk vendors and the register has been, not any below 90.

The streets, lanes and yards have received my strict attention, and the city scavengers have removed about 900 barrels of night soil during the year.

I have made weekly visits to the city's Isolated Hospital, it is in good order, and in case it should be required, it could be got ready in a short time.

I have made 875 house to house visits, placarded 141 houses for contagious diseases and fumigated 10 houses where contagious diseases had existed, also fumigated all the Public Schools, Collegiate Institute and the Free Library.

The city sewers have been flushed by means of the Automatic Flush Tanks, which have been placed on the various streets of the city and recently inspected and tested, and the same found to be in good working order.

Respectfully submitted,

A. Boulden,
Sanitary Inspector

St. Catharines, Nov. 16th, 1900.

STRATFORD.

Report of the Medical Health Officer.

By J. A. Robertson, M.D.,

To the Chairman and Members of the Local Board of Health, Stratford:

Gentlemen,—In presenting my annual report as Medical Health Officer on the sanitary condition of the city for the past year I have pleasure in again congratulating you, taking it on the whole, on its healthy state during that time. By the Sanitary Inspector's report you will see that there has been an increase in the number of scarlet fever cases for the year as compared with that of former years This, in a measure, was due to the mildness of the disease. In some instances it was found that no physician was employed and the children who had been affected, as well as others residing in the house, were allowed to mix with other children at school, thereby spreading the disease. Difficulty was also experienced in persuading the parents that the same care was necessary to be observed in mild cases as in severe ones, to prevent its spread, as the popular belief seems to be that the very mild cases are only "Scarlatina" and not scarlet fever, whereas it is one and the same poison being only different in degree. Contrasting this year with the two previous ones, we find there were 63 cases of scarlet fever with 3 deaths, in 1899 there were 20 cases with no deaths and in 1898 there were 17 cases with 1 death. During last year there were 7 cases of diphtheria with 1 death, in 1899 there were 4 cases with no deaths and in 1898 there were 32 cases with 4 deaths. This year there were 48 cases of typhoid fever reported with 1 death. During 1899 there were 40 cases with 2 deaths and in 1898 there were 18 cases with 2 deaths Some difficulty is experienced in securing the number of cases of typhoid as the physicians of the city have not been in the habit of reporting promptly, due apparently to the fact of their not being supplied with proper cards for the notification of the disease. I would ask your Board to have same supplied to the different physicians of the city so that prompt attention can be given to the water supply used by parties contracting the disease, after notification is given by the attending physician.

I have pleasure in stating that the physicians of the city, as a rule, promptly report any contagious disease coming under their notice.

The number of cases of contagious diseases during the year impresses us with the necessity of having an Isolation hospital in which such cases could be treated. A number of cases, to my knowledge, desired to have the patients sent to the General Hospital and were disappointed to learn that on account of the disease being contagious, they could not be admitted. For over ten years I have almost annually urged upon your Board the desirability of having such an institution for the city and again urge upon you to ask the council to try to formulate some scheme whereby the object can be accomplished.

I am pleased to know that W.H.A. have taken the matter up, for with their usual activity, the co-operation of the citizens in general and the assistance of the Council, the securing of the hospital is close at hand.

The entire mortality in the city is somewhat the same as that of previous years. During the year there were 89 deaths from all causes reported. In 1899 there were 86 and in 1898, 89 the same as in the present year. This year 14 have been reported as having died from old age, 12 in 1899 and 9 in 1898 from the same cause. Consumption carried off 10 victims during the year, a decrease of 12 from the year previous, and 3 from that of 1898.

We have reason to congratulate ourselves on this remarkable decrease in the city, as compared with that of the Province as a whole. It is pleasing to note that the public at large are becoming alive to the fact, that consumption is contagious, and that strict measures are being observed to prevent its spread ; and "Sanatoria" are being established throughout the province in which patients so affected, particularly the poor can be more successfully treated and the danger to the public of communication thereby diminished.

I have pleasure in stating that steady progress is being made in the laying of sewers and the pollution of the streams running through the city greatly diminished by having proper connections made with the sewers. The sewage disposal has received considerable attention during the year and the committee deserve credit for their untiring and difficult task to secure its satisfactory completion. Steady and satisfactory progress is being made and before long the question of the pollution of the Avon by the sewage of the city will be a thing of the past.

Inspection, as usual, of the dairies supplying milk to the city was made and everything found satisfactory. The well-water where contagious diseases existed was examined and every means possible to further the sanitary condition of the city were adopted.

WINDSOR.

Report of Medical Health Officer.

By J. Coventry, M. D.

To the Chairman and Members of the Windsor Board of Health:

Gentlemen :—We have passed through another year of fairly good health, very few contagious diseases, and where they did occur, the form was generally mild. There were fewer infantile summer diseases than usual, and the death rate was low. There has been a greater number of typhoid and enteric fevers than usual, but not more than an average in other cities of Ontario.

In order to ascertain the consensus of opinion among the Medical profession as to the producing causes of these diseases, I addressed a circular to each physician, but I regret to say that only five out of fifteen replied to my note. From such meagre information I can draw no deductions, but submit, as my own opinion, that local unsanitary conditions on the premises where these diseases occurred, are more likely to have acted as the producing cause than the water, milk or food supplies.

As usual, tuberculosis continues to claim the greatest number of victims, 16 in number, but on account of the gradual invasion of the disease, neither the profession nor the public fully appreciate the peril to mankind, and the disease creeps stealthily into the household, and claims the fairest flowers of the flock for its victims.

In handling small pox last year, we were brought face to face with our incapacity to cope with a general outbreak. The city having purchased the grounds where the Hospital stood, the Board of Health removed the building to a higher location and added a suitable bath room. two disinfecting chambers, also a convenient place for the ambulance and other out-buildings. The furnace was old, leaking and inadequate to heat the building, so a new one was procured and a sufficient amount of radiating pipe put in to keep every part of the building warm in the coldest weather. The Hospital is now in a position to receive twenty patients or more, and no one can reasonably object to the accommodations. As the old ambulance is unfit for use, it is very desirable that a new one be procured

An effort was made last spring to secure general vaccination by the appointment of public vaccinators in each ward, but it resulted in complete failure, owing partly to the apathy of the public, partly to the inconvenient places selected to do the work in, and partly to the inadequate remuneration fixed by the Statute. With the existence of small-pox in Michigan, where in many municipalities it is not even quarantined, Windsor will be very fortunate indeed, if it escapes the disease. As vaccination is the recognized preventative, some changes in the By-law should be made in order to secure practical results.

In previous years, a general collection of garbage was made every spring, and, in fact, this year an attempt was made to collect it twice a week, but the effort was far from being satisfactory. In the first place, the contractor undertook the work at such a ridiculously low figure, that he could not afford to do it according to specifications. But this was only partly the cause of failure. The public has been so long accustomed to throw every thing they had no use for into the alleys, that, although they were notified by circular not to do so, they continued to pile up tin cans, old barrels, horse manure, branches of trees, house garbage and grass cuttings, so that the man who had contracted to remove the garbage only, could not clean up as he went along. Both the Board of Works and the Police were appealed to for assistance in order to prevent this state of affairs, but no help was received from either of these Boards. Unless a city ordinance is passed, requiring every householder to keep a proper receptacle for garbage in a convenient place on his premises for the scavenger to get at, no systematic removal of garbage can be effected.

During the past month, the water supplied to the citizens has been very muddy, but it may be said to be " clean dirt, " and is largely due to the fact that United States' dredges have been widening the channel off Grosse Pointe, and the dumping scows have been depositing the clay towards the Canadian shore. High winds, particularly from the west, have stirred up the mud from the shallow waters, and the soil is of such a nature that it does not precipitate again till it reaches Lake Erie. The danger from drinking this water is not nearly so great as though the pollution was the result of shore contaminations.

A greater amount of improvement in house drainage and plumbing has been accomplished this year than in any two previous years ; the work of abolishing privy vaults has had a good beginning, and all new construction has been closely inspected.

The Inspector's report on this subject will speak for itself ; and the secretary will give the record of contagious diseases and the mortality list.

Windsor, Dec. 26th, 1900.

WINDSOR, Dec. 17th, 1900.

To the Chairman and Members of the Board of Health.

GENTLEMEN :—It has been the custom of your Secretary, in preparing his annual report to the Board, to traverse the whole field of sanitary work within the Municipality, conscious that, while so doing, he necessarily seemed to infringe upon the domain of the Medical Health Officer, the result sometimes being that the respective reports were largely devoted to the same identical matters.

This year an understanding was arrived at under which the Medical Health Officer will deal with all purely sanitary questions, leaving to me only the compilation of the statistics relating to deaths and their causes, as reported to this office during the year, and of the contagious diseases occuring within the same period.

Statements under these headings you will therefore please find attached hereto.

Very respectfully submitted,

STEPHEN LUSTED,
Secretary.

Deaths and their Causes, 1900.

Apoplexy	5	Hæmorrhage	1
Asphyxia	2	Hip-joint	1
Abcess of ear and brain	1	Hydrocephalus	1
Atheroma	2	Hypertrophy of liver	1
Accident	1	Indigestion	1
Acute Anaemia	1	Injury	1
Bronchial Phthisis	1	Intussuseption of bowels	1
Bronchitis	3	Interstitial nephritis	1
Bronchial Pneumonia	1	Jaundice	1
Bright's disease	1	Lung abscess	1
Cancer	2	Lung fever	1
Cancer of stomach	1	Marasmus	8
Consumption	6	Malnutrition	3
Cerebral effusion	2	Meningitis	4
Cerebral exhaustion	1	Nephritis	2
Croup	2	Obstruction of bowels	1
Convulsions	2	Oedema of throat	1
Cephalhaematoma	1	Old age	6
Cirrhosis of liver	1	Ovaritis	1
Cholera infantum	7	Paralysis	10
Cerebro-spinal Meningitis	1	Pericarditis	1
Cholera Morbus	1	Peritonitis	2
Congestion of brain	1	Pernicious anaemia	3
Diabetes	3	Phthisis pulmonalis	4
Diarrhoea	1	Phthisis	2
Died at birth	1	Premature birth	3
Displaced kidney	1	Pulmonary tuberculosis	1
Drowning	2	Pneumonia	8
Dysentery	1	Senile atrophy of brain	1
Eclampsia	1	Softening of brain	1
Enteritis	1	Scarlet fever	2
Endo-and Pericarditis	1	Shock following operation	1
Epilepsy	1	Still-born	8
Erysipelas	4	Suicide	1
Fibroid Phthisis	1	Trismus nascentium	1
General Debility	2	Tuberculosis	1
Heart disease	11	Tubercular Meningitis	1
Hæmorrhage of bowels	1	Typho pneumonia	1
Uraemia	1	Typhoid fever	8
Uraemic coma	1	Undeveloped	1
Uraemic convulsions	1	Unknown	3
Uraemic poisoning	2		
Rate, 15.16 per 1000.		Total	184

Memo.

Deaths under 1 year	44	Deaths over 50 and under 60	14
Deaths over 1 year and under 5	13	Deaths over 60 and under 70	20
Deaths over 5 years and under 10	2	Deaths over 70 and under 80	15
		Deaths over 80 and under 90	11
		Deaths over 90	4
Total	59	Total	64

Contagious Diseases.

Reported at the Health Office during the year 1900.

	Cases		
Scarlet fever	37	Typhoid fever	9
Diphtheria	4	Total cases reported	52
Scarletina	1	No. of families afflicted	41
Measles	1	No. of houses placarded	35

Notices of diseases have been reported in each case to the head teacher of the school or schools, as the case required, and also to the librarian of the city public library.

CITIES.

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Belleville	.....	Scarlatina, 4; diphtheria, 1; typhoid, 3; tuberculosis, 14.	Yes; yes.....	Yes	Yes	Yes .....
Brantford	Yes; yes.....	Diphtheria, 1; typhoid, 13; tuberculosis, 34.	Yes; no hospital	Yes	Yes	.....
Guelph.....	Yes; yes.....	Scarlatina, 2; diphtheria, 1; typhoid, 1; tuberculosis, 13.	Yes; yes	Yes; yes ..	Generally ..	No; no ....
Hamilton	Yes; yes.....	Diphtheria, 19; scarlatina, 6; typhoid, 11.	Yes; yes.....	.....	Yes	Yes .....
Kingston	Yes; yes.....	Scarlatina, 6; diphtheria, 1; typhoid, 3; tuberculosis, 37.	Yes; yes... ...	Yes	Yes	No .. ... .
London	Yes; yes.....	Tuberculosis, 60; typhoid, 9; diphtheria, 6; scarlatina, 6.	Yes; yes.....	.....	Yes	Yes .....
Ottawa.....	Yes; yes.....	Scarlatina, 10; diphtheria, 37; typhoid, 19; tuberculosis, 112.	Yes; yes.....	Yes; yes...	Yes	No; no ....
St. Catharines..	Yes; yes.....	Scarlatina, 1; diphtheria, 1; typhoid, 5; tuberculosis, 18.	Yes; yes.....	Yes; occasionally.	Yes	Sometimes .
St. Thomas.....	.....	Scarlatina, 2....	Yes.....	Yes; yes...	Yes	No; no ....
Stratford.....	Yes; yes.....	Scarlatina, 3; diphtheria, 1; typhoid, 1; tuberculosis, 10.	Yes; no	Yes; yes...	Yes	Yes .....
Toronto	Yes; yes.....	Scarlatina, 23; diphtheria, 144; typhoid, 24.	Yes; yes.....	.....	Yes	Yes; yes...
Windsor	Yes; yes.....	Tuberculosis, 16.	Yes; yes.....	.....	Yes	Yes .....

CITIES.

Are forms for notification supplied to teachers and M. H. O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and Kind of noxious trades. See sec. 72, Public Health Act. How licensed and regulated.
Yes	Waterworks and wells.	No	None in city	Yes	Yes	None.
Yes	Yes; one-third used from wells 8 to 10 ft.	Yes	Yes	Yes	Yes	
Verbal notice.	Waterworks	No	No; in good condition.	Yes	No	Storing hides, etc.
Yes	Yes		None in city	Yes	Yes	None.
Yes	Yes	Yes; no	One not licensed. No inspection.	Yes	Yes	Slaughtering animals; storing hides, etc.
Yes	Waterworks	Yes		Yes	Yes	None.
Yes	Yes	Yes; tuberculin test compulsory for all milk vendors.	No; offal fed to hogs.	Yes	Yes	Hide inspection; soap boiling, etc.
To teachers.	Yes	Yes; no	No; all meats are inspected.	Yes	Yes	Tanneries soap factory; hide-house.
No	Yes	No	Yes; offal removed from city.	Voluntarily removed.	Yes	Pork packing houses, hide storehouse, soap mfg., etc.
Yes	Wells, soft	Yes; no	No; used as fertilizer; no.	Yes	Yes	Gas plant, slaughter houses, etc.
	Waterworks	Yes; no	No; removed daily; yes.	Yes	Yes	
Yes	Yes		None	Yes	Yes	None.

TOWNS AND VILLAGES.

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint.	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board.	Does the Board make inspection of public schools? Are new school children vaccinated.
Acton	Yes; yes		No	No	No	No
Alvinston	On complaint.	Diphtheria, 1	Yes; no	Not often required.	Yes	No
Alexandria	On complaint.	Diphtheria, 1	Yes; no	Sometimes used; good results.	No	No
Alliston	Yes; yes	Tuberculosis, 1	Yes	Yes	Yes	No
Ailsa Craig	Yes; yes	Tuberculosis, 2	No	No	No	No; no
Arkona	Once a year	Tuberculosis, 2	Yes; no	Yes	Yes	Yes; no
Aylmer	Yes; yes		Yes; yes	No	Yes	Yes; no
Barrie	Yes; yes	Typboid, 1; tuberculosis 6.	Yes; no	No	Yes	Yes; no
Brampton	Yes; yes	Tuberculosis, 6	Yes; no	Yes	Yes	Yes; yes
Bowmanville	Yes; yes	Diphtheria, 2; tuberculosis, 7.	Yes; no	Yes; results good.	Yes	Yes
Brockville	General	Scarlatina, 1; typhoid, 3; tuberculosis, 17.	Yes, at both hospitals.	Yes; fairly satisfactory.	Yes	Yes; no
Bothwell	Yes; yes	Tuberculosis, 1	Yes; no hospital.	Yes; yes	Yes	No; no
Bath	Yes		Yes; no hospital.	Yes; yes	Yes	No
Bayfield	When complaint is made	Tuberculosis, 1	Yes.	No cases	No	No; no
Beeton	Yes; yes		Yes; no hospital.	Yes; yes	Yes	No; no
Beaverton	Yes; yes		Yes; no hospital.	Yes	Yes	No
Bolton	On complaint.		Yes	Yes; yes	Yes	No
Belle River	On complaint.		No; no	Yes; yes	Yes	No
Beamsville	General and on complaint	None	No	No	Not necessary.	No
Berlin	General and on complaint	Scarlatina, 7; typhoid, 6; tuberculosis, 6.	Yes; yes	Yes; yes	Yes	No; no
Brighton	Occasionally	Tuberculosis, 2	Yes	No	Yes	Yes
Brussels	Yes; yes		Yes	No	Yes	Yes

TOWNS AND VILLAGES.

Are forms for notification supplied to teachers and M. H. O.?	Is there public water supply. If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See section 72, Public Health Act. How licens'd and regulated.
No	No ; wells, 12 to 40 ft.	No	None	No	No	None.
No	Wells	No	None	No ; only partial.	No	None.
No	Water used is from streams.	No ; no	None	No	No	None.
Yes	Wells, 20 ft	No	None	No	No	None.
No	Wells, 6 to 20 ft.	No	None	Yes	No	None.
No	Wells, 20 ft	No dairies	None	No	No	None.
Yes	Wells, 10 to 20 ft	No ; no	None	Yes	No	None.
Yes	Water works ; from Artesian wells.	Yes ; no tuberculosis.	No ; offal boiled; no systematic inspection of carcasses.	Yes	Yes	None.
Yes	Wells, 10 to 35 ft	Yes ; no	Yes ; boiling and feeding ; no.	No	No	Butchers, and gas Co.
Yes	Wells, 30 ft	Yes ; no cases	Yes ; for fertilizing purposes ; no inspection.	Yes	No	None.
Yes	From St. Lawrence River.	Yes ; yes, one	None ; carcasses inspected by veterinary.	Yes	Yes	Glass works; tannery, gas works.
No	Wells, 12 to 15 ft	No	None	No	No	None.
No	From bay and wells.	No	No ; offal fed to hogs.	Yes	No	None.
No	Wells	No ; no	No ; no	No	No	None.
Yes	Waterworks	No ; no	No ; buried ; no	Yes	No	None.
No	Wells. 15 ft	None in village	No ; buried ; yes.	Yes	No	None.
	Wells, 12 to 30 ft	No	No ; boiled, fed to pigs.	No	Yes	None.
No	Wells, 10 ft	No	Yes; fed to hogs; no.	No	No	None.
Yes	Waterworks	No	None	No	No	None.
Yes	Waterworks	No ; no ; no	Yes; as fertilizer; yes.	Yes	Yes	None.
Yes	Wells, 12 to 18 ft	No	Two ; no	No	No	None.
Yes	Wells, 12 to 30 ft	No ; no	None	No	No	None.

TOWNS AND VILLAGES,—*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint.	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board.	Does the Board make inspection of public schools? Are new school children vaccinated?
Bracebridge	General	Diphtheria, 2; typhoid, 1; tuberculosis, 3.	Yes ; no.....	No	Yes	No ; no ....
Collingwood	Yes	Typhoid, 2	Yes; isolation hospital.	Used when necessary.	Yes	No ; no....
Clinton	Yes ; yes.....	Diphtheria, 2 ..	Yes ; no hospital	Used in some cases with negative results.	Yes	No .....
Creemore	Yes ; yes.....	....	Yes	Don't know.	Yes	No .....
Clifford	.....	Tuberculosis, 1 .	No ; no.....	No cases ...	No	No ; no ....
Colborne.....	Yes : yes	.....	Yes; no.....	No	Yes	No; no ....
Caledonia	On complaint.	.. ..	Yes ; no	Yes	Yes	No; no ....
Cardinal	Yes ; yes.....	Diphtheria, 2 ..	Yes ; no.....	Yes	Yes	Yes : no....
Chippawa	General	Tuberculosis, 1 .	Yes	No cases ...	Yes	No ....
Cobourg.....	Yes ; yes.....	Diphtheria, 2; tuberculosis, 4.	Yes ; no.....	Yes; yes...	Yes	No ; no ....
Dresden.....	Yes ; yes ; no.	Typhoid 1; tuberculosis 3.	Yes ; no.....	Yes ; yes...	Yes	Yes ; yes...
Delhi	Yes ; yes	Tuberculosis, 1..	Yes	Yes ; yes...	Yes	Yes; no....
Dundalk	Yes ; yearly..	.....	Yes ; no.....	No	No	Yearly ; no.
Durham.....	On complaint.	.....	No	No	No	No .....
Dunnville .. .	Yes; yes	Tuberculosis, 3..	Yes ; no.....	Yes; yes...	Yes	No ; no ....
Embro	Yes : yes.....	Tuberculosis, 2..	Yes ; no.....	No cases ...	Yes	Yes ; no....
Erin	Regular inspection.	None.....	Yes ; no.....	No cases ..	No cases ...	No . .....
Elora	Yes ; yes.....	Tuberculosis, 1.	No hospital.....	No cases ...	No	No; no ....
Forest	Yes ; yes.....	Typhoid, 1.	Yes ; no..... .	Yes ; yes...	Yes	Yes ; no....
Galt	Yes ; yes.....	Typhoid, 6; tuberculosis, 21.	Yes ; no.....	Yes ; yes...	Yes	Yes ; no....
Grand Valley ..	Yes ; yearly..	Typhoid, 1	Yes ; no.....	Yes, when necessary.	Not always.	No ; no ....
Gravenhurst....	Yes ; general.	Diphtheria, 1; tuberculosis, 2.	Yes ; no.....	Yes ; yes...	Yes	No ; no ....
Gore Bay	No	Typhoid, 1; tuberculosis, 2.	No	Don't know.	No	No .....

TOWNS AND VILLAGES.—*Continued.*

Are forms for notification supplied to teachers and M. H. O.?	Is there public water supply? If from wells, give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See section 72 Public Health Act. How licens'd and regulated.
Yes	Waterworks	No; no	Yes; fed to hogs; no.	Yes	No	None.
No	Georgian Bay	No; no	No; fed to pigs; no.	Yes	No	None.
Yes	Wells, 40 to 250 ft.	No; cases of tuberculosis have occurred.	None	Yes	No	None.
Yes	Wells, 8 to 14 ft.	No; no	No	No	No	None.
Yes	Wells, 20 to 40 ft	No; no	Not licensed	No	No	None.
Yes	Wells, 12 ft	No; no	No	Partial	No	None.
No	Well, 18 ft	None	No; fed to hogs; no.	No	No	None.
No	St. Lawrence River.	No	No	No	No	None.
No	Wells, 14 to 20 ft	No	None	No	No	None.
Yes	Waterworks	Yes; no cases; no test.	Yes; offal buried or fed to hogs; no.	Yes	Partial	One.
Yes	Wells, 20 feet.	No; no; no.	None	Partial	No	None.
No	Artesian wells, 16 to 35 feet.	No; no	None	No	No	None.
Yes	Wells	No	None	No	No	None.
No	Wells, 40 feet.	No; no	None	Partial	No	None.
Yes	Yes; some wells, 8 to 20 feet.	No; no	None	No; partial.	No	None.
Yes	Wells, 20 to 30 feet.	No; no	No; buried; no.	Yes	No	None.
Yes	Wells, 20 feet.	No	No	No	No	None.
No	Wells, 6 to 8 feet	No; no; no.	No; no; no.	No	No	None.
No	Wells, 15 to 30 feet.	Yes	Yes; burnt; no.	Yes	Partial	None.
Yes	Yes; some wells.	Yes; no	None; yes; boiled, fed to hogs.	Yes	Only partial	None.
Yes	Artesian well, 100 feet.	No; no	No; fed to hogs; no.	No	No	None.
Yes	Wells, 25 feet.	No; no	None	No	No	None.
No	Yes	No	No	No	No	None.

TOWNS AND VILLAGES.—*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint.	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Hanover	Yes; yes.....	Diphtheria 3; typhoid 1; tuberculosis 1.	Yes; no.....	Yes; yes...	Yes	No .....
Holland Landing	Yes; yes.....	.....	Yes; no.....	Yes; yes...	Yes	Yes; yes...
Hagersville.....	Yes; yes.....	.....	No; no hospital.	Yes; yes...	Yes	Yes; yes...
Hensall	Yes; yearly..	....	No cases.....	Yes; none this year.	No	Yes; yes...
Havelock.....	Yes; yes.....	None	No occasion....	No occasion	Yes	Yes; no....
Hespeler	Yes; yes.....	Typhoid, 2; tuberculosis, 6	Yes; no.....	Yes; yes...	Yes	Yes; no....
Kingsville	Yes; yes.....	Tuberculosis, 1..	Yes; no.....	Yes; yes...	Yes	Yes .....
Kincardine.....	General inspection.	Tuberculosis, 1..	Yes; no.....	Yes; yes...	Yes	No .....
Lindsay	.....	Scarlatina, 1; diphtheria, 2; typhoid, 2.	Yes; yes.....	Yes; yes...	Yes	No; no ....
Lakefield	Spring & fall..	Tuberculosis, 4..	Yes; yes.....	No diphtheria.	Yes, by M. H. O.	No .....
Leamington ..	General inspection.	.....	No; no	When necessary.	Yes; yes...	Yes .....
Lancaster	On complaint.	Tuberculosis, 1..	Yes	No	Yes	No .....
Little Current..	Yes	Typhoid, 6	Yes; no.....	No cases....	No	No .....
Madoc	Yes; yes ...	Tuberculosis, 2..	Yes; no	Yes.....	Yes	Yes; no....
Millbrook	Once annually	... .	House placarded.	Yes: yes...	Yes	No .....
Morrisburg	Once yearly ..	Typhoid, 1; tuberculosis, 1.	Yes, except typhoid and tuberculosis.	.....	Yes	... .
Milton	Annual inspection.	Typhoid, 1; tuberculosis, 1.	When necessary.	Yes; yes...	No	No .....
Mount Forest...	General inspection.	Tuberculosis, 1..	Yes; no	.....	No	No .....
Merrickville....	Once a year...	.....	Yes; no	Don't know.	No	No .....
Newmarket	Yes; yes	.....	Yes; no	.....	.....	.....
Newboro	General	.....	No hospital	.....	.....	Yes; no ...
North Toronto..	Annual inspection.	Diphtheria, 1; typhoid, 1; tuberculosis, 3.	Yes; no	No	Yes	No .....
Napanee.....	Yes; yes	.....	Yes; no	Yes.....	Yes	No; no ....
Newcastle.....	Yes; yes	Diphtheria, 2...	By placarding..	No	Yes	Yes.....

TOWNS AND VILLAGES.—*Continued.*

Are forms for notification supplied to teachers and M.H.O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No, and kind of noxious trades. See sec. 72, Public Health Act. How licensed and regulated.
Yes	Wells, 204 feet..	None	No; no inspection of carcasses.	No	No	None.
Yes	Wells, 20 to 40 feet.	Yes; no; yes....	None	No.....	No	None.
Yes	Wells, 35 feet...	No; no	Yes; no.... . .	Yes	No	None.
No	Wells, 20 feet...	No dairy cows....	No; no	No	No	None.
No	Wells, 20 feet...	No; no	No	No	No	None.
Yes	Wells, 25 feet...	No; no	None	Yes	No	None.
No	Yes	No; no cases	None	No	No	None.
Yes	Waterworks ...	No; no	No; offal burned or buried; no.	No	No	Slaughtering of hogs.
Yes	Waterworks and wells.	No	None	No	Yes	None.
Yes	River and wells.	No	None	Yes	No	None.
..... .	Waterworks ...	No	No	Yes	No	None.
No	Wells, 12 to 18 feet.	No	Yes	No	No	None.
Yes	From lake and wells.	No	None	Yes	No	None.
No	Wells	No	No	Yes	No	None.
No	Wells & springs.	No; no	None	No.....	No	None.
Yes.....	Waterworks	....	None	Yes	No	None.
Yes.....	Waterworks	No; no	None	Yes.....	No	None.
Yes.....	Waterworks	No	No.....	No system..	No	None.
No	Wells	No	No.....	No	No	None.
....	....	No	None	No	No	None.
.....	Wells, 20 to 40 ft.	No	None	No	No	None.
Yes.....	Waterworks and wells.	No; no	Yes; no inspection of carcasses.	Yes.....	No	None.
Yes.....	Wells, 15 to 20 ft.	Yes; no test used.	Yes; no	No	No	None.
No	Wells, 10 feet ..	No; no	No.....	No	No	None.

TOWNS AND VILLAGES.—*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Niagara Falls ..	Yes ; yes. ...	Diphtheria 1 ; tuberculosis, 4.	Yes ; no	Yes	Yes	No ; no ....
Niagara	Yes ; yes.....	Tuberculosis, 1..	Yes	Yes ; yes...	Yes	No .....
Norwood	Yes ; yes.....	.....	Placarded ; no..	No cases....	Yes	No ; no ....
Norwich	General inspection.	Diphtheria, 1 ; typhoid, 1 ; tuberculosis, 2.	Yes ; no	Yes ; yes ..	Yes	No ; no ....
Ottawa East....	Yes	.....	.....	Yes	Yes	Yes ; no ...
Oakville.....	General	None.....	No	Yes	Yes	No .....
Owen Sound ...	Yes ; yes	Typhoid, 1.....	Yes	.....	Yes	Yes ; no ...
Orangeville.....	Yes ; yes	Diphtheria, 4...	Yes ; no	Yes ; yes ..	Yes	No ; yes ...
Oshawa	Yes , yes ..	Diphtheria, 1 ; typhoid, 7 ; tuberculosis 5 ;	Yes ; no.....	Yes	Yes	No ; no ....
Paris.....	Yes ; yes	Diphtheria, 2...	Yes : no	Yes	Yes	Yes .....
Paisley.....	Yes ; yes	None.	No occasion	No	When required.	Yes ; no ...
Preston	Yes.....	None.....	Yes	....	Yes	.....
Pembroke	On complaint.	Diphtheria, 4 ; typhoid, 5 ; tuberculosis, 5 ;	Yes ; no	Yes ; yes ..	No	No ....
Petrolia	Yes ; yes	Scarlatina, 1 ; tuberculosis, 5 ;	Yes	Yes ; yes ..	Yes	Yes ; no....
Parkhill.....	Yes ; repeated	Tuberculosis, 1 ;	Yes ; no	Yes ; yes ..	Yes	No ; no ....
Portsmouth	General inspection.	Tuberculosis, 1 ;	Yes ; yes.....	Yes.....	No	No ; no ....
Peterboro'	General inspection.	Typhoid, 4 ; Scarlatina, 2 ; diphtheria, 1 ; tuberculosis, 20;	Yes	Yes	Yes	.....
Port Stanley ...	General inspection.	None	Yes	No cases ...	Yes	No .....
Port Elgin	Yes ; yes	Diphtheria, 1 ; typhoid, 1 ; tuberculosis, 2 ;	Yes ; no	No	Yes	No ; no ....
Port Dalhousie .	Yes ; yes	.....	No diseases	No occasion to use it.	Yes	No .....
Port Perry	Yes ; yes	Typhoid, 2 : tuberculosis, 1 ;	Yes ; no	Yes ; good .	Yes	Yes ; no ...
Port Arthur....	Yes	Smallpox, 3.....	Yes	.....	Yes	Yes .....
Port Carling....	Yes	Tuberculosis, 2 .	Yes ; no	.....	Yes	Yes ; no ...

TOWNS AND VILLAGES.—*Continued.*

Are forms for notification supplied to teachers and M.H.O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kinds of noxious trades. See sec. 72, Public Health Act. How licensed and regulated?
Yes	River and wells.	Yes	None	Yes	Yes	None.
No.....	Waterworks	No	No ; no	No	Only partial.	None.
Yes	Wells, 20 feet ..	No dairy	None	No	No	None.
Yes	Wells, 12 to 40 ft.	Inspected last fall : no test.	No ; but inspected.	Yes	No	Cider making.
No	Wells, 20 to 160 feet	Yes; no	Yes; offal buried; no.	Of night soil only.	No	None.
Yes	Wells, 20 feet...	No	No; buried; no.	No	No	None.
.....	....	No	None	Yes	Yes	None.
Yes	Waterworks ...	No; no	None	Yes	No	None.
Yes	Wells, 15 to 25 feet.	None reported....	No; fed to hogs; no.	No.....	No	None.
M.H.O. only	Wells & springs.	Yes; 10 cows out of 110 had tuberculosis were destroyed.	None	No.....	No	None.
No	Wells, 20 to 60 ft.	None kept.....	None	No.....	No	None.
. .....	.....	No	None	No.....	No	None.
No	Waterworks	No	None	No.....	Partial	None.
Yes	Waterworks	Yes, twice a year; no.	No; offal fed to hogs.	Yes	Partial	None.
Yes	Artesian wells..	No	None	Yes	No	None.
No	Wells	No	None	Yes	No	None.
..... .	Waterworks	.....	.....	Yes	Yes	None.
No	Wells, 12 to 18 feet.	No	Permits granted; offal fed to hogs; no.	No.	No	None.
.....	Wells, 14 to 20 feet.	No	None	Yes	No	None.
No	Wells, 12 to 14 feet.	No	No; in good condition.	Yes	No	None.
Physicians only.	Wells, 18 feet ..	No	None	No	No	None.
Yes	Wells	No	None	No	No	None.
No	Spring water ...	No	Yes: yes	Yes	No	None.

TOWNS AND VILLAGES.—*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint.	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Pt. Colborne ...	On complaint.	Tuberculosis, 2 .	No	Yes; yes....	No	No .....
Ridgetown	On complaint.	Tuberculosis, 8 .	Sometimes	Cannot say..	Yes	Think so...
Renfrew	Once a year ..	.....	Yes; yes..	Yes	Not always..	No ; no ....
Stirling	No	....	Yes	Yes	Yes	No ; no ....
Strathroy	Yes; yes.....	.....	No	No	Yes	No .....
Southampton ..	General inspection.	.....	Yes ; no	Diphtheria is treated by latest improved methods.	Yes	Yes; no ....
Shelbourne	General inspection.	.....	No hospital ; no diseases.	Generally used.	No	Not this year
Streetsville	General inspection.	.....	Yes ; no hospital.	Yes; yes....	Yes	Yes . ....
Seaforth.... ..	No ; on complaint.	Tyhoid, 1 ; tuberculosis, 1	Yes ; no	Yes; yes....	No; only by doctor in attendance.	No .....
Sault Ste. Marie	Yes : twice a year.	Smallpox, 1 ; diphtheria, 2 ; typhoid, 11 ; tuberculosis, 2	Yes ; no.....	Yes; yes....	Yes	Yes .....
Sarnia.....	General and on complaint.	.....	Yes	Yes; yes....	No ; except smallpox.	No; yes ....
Springfield	At intervals ..	....	No; done as well as possible.	Yes	Yes	Yes . ..
Simcoe.....	Yes; yes.....	Typhoid, 1 ; tuberculosis, 5	Yes; yes...	Yes	Yes	Yes; yes....
Sutton	General	....	Yes; no	Yes	Yes	No; no .....
Stouffville	Once a year ..	Diphtheria, 2 ; typhoid, 1 ; tuberculosis, 3	Yes; no	Not in all cases.	Yes	No .....
Smith's Falls...	On complaint.	Tuberculosis, 4 .	Yes; no	Yes; yes....	Yes	Yes .....
Sturgeon Point .	Regular inspection.	None	No cases	No cases ...	No cases ...	No school...
Toronto Jct	Yes; yes.....	Diphtheria, 1 ; typhoid, 4 ; tuberculosis, 6	Yes; no	Yes; yes....	Yes	Yes; no ....
Thessalon	On complaint.	Diphtheria, 3 ; typhoid, 1 ; tuberculosis, 1	Yes; no	No	Yes	No; no .....
Thedford	Yes; yes	Diphtheria, 1...	Yes; no	No	Yes	Yes; yes....
Tweed	Yes; yes.....	Diphtheria, 1 ; tuberculosis, 2	Yes; no	Yes; yes....	Yes	No .....

TOWNS AND VILLAGES,—*Continued.*

Are forms for notification supplied to teachers and M. H. O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See sec. 72, Public Health Act. How licensed and regulated.
No	Waterworks. ...	No	No; no	No	No	None.
Yes	Wells	No; no	None.....	Yes.	No	None.
Yes	Waterworks. ...	Yes; no.	None.....	Yes; yes....	Yes.	None.
....	Wells	No	No; no	No	No	None.
Yes	Wells, 20 to 25 feet.	No	No	Yes.	No	None, except canning factory.
Yes	Wells, 8 to 25 feet.	No; no	No; offal buried: no.	No	No	Fish oil extracting.
No	Artesian wells ..	No	Yes; no; no...	No	No	One slaughter house.
Yes	Wells, 30 feet. .	No; no cases.. ...	Yes; fed to hogs; no.	Yes.	No	None.
No	Wells, 18 to 30 feet.	No	None.....	No	No	None.
No	.....	No; none...	No; burnt; no..	Yes.	No	None.
Physicians only	Waterworks. ...	Yes; no cases.....	None.....	Yes.	Yes.	None.
No	Wells	No	No	No	No	1 cheese factory; 2 slaughter houses.
Yes	Artesian wells..	No	None.....	No	No	None.
Yes	Wells, 15 feet...	No; no dairies....	No	No	No	None.
Yes.... ..	Springs and wells.	No	No	No	No	No.
Generally ..	Wells	Yes; yes; test used.	None.....	Yes.	Yes.	None.
.....	Wells, 10 to 20 feet.	No cows in village	None.....	Yes.	No	None.
Yes	Wateworks and wells.	Inspection on complaint.	None..... ...	Yes.	Yes.	None.
No	Water from Lake Huron.	No; no	No; fed to hogs; no.	No	No	None.
No	Wells, 20 feet...	Yes; no	None..... ..	Yes.	No	None.
No	Wells, 12 feet...	No; no	Yes; buried; no.	Yes.	No	None.

TOWNS AND VILLAGES.—*Concluded.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Tiverton	On complaint.	Typhoid, 1; tuberculosis, 2	Yes; yes	No occasion.	Yes	No
Thamesville	On complaint.	Tuberculosis, 1	No	Yes; yes	No	No; no
Tottenham	On complaint.	None	Not needed	No cases	Not needed.	No; no
Tara	Sanitary inspection.	Tuberculosis, 1	No	No	Yes	No; no
Tilsonburg	Yes; yes	Typhoid, 2	No	No cases	Yes	No
Teeswater	Two inspect'ns each season.	Tuberculosis, 2	Yes; no	No cases	Yes	No; no
Tilbury	General inspection.	Typhoid, 1	Yes; no	Yes; yes	Yes	Yes
Trenton	Yes; yes		Yes; no	Yes; yes	Yes	Yes; no
Uxbridge	Yes	Typhoid, 1; tuberculosis, 1	Yes; no	Yes	Yes	No; no
Vienna	On complaint.	None	No	No	If necessary.	No
Walkerton	Yes; yes	Tuberculosis, 4	Yes; no	Yes; yes	Yes	Yes; no
Wiarton	Yes; yes; yes,		Yes; no	Yes; yes	Yes	Yes; no
Wroxeter	No	Tuberculosis, 1	No	No	No	No
Waterdown	On complaint.		Yes; no	No	No	No
Watford	Yes; inspected		Yes; no	Yes	Yes	Yes
Woodstock	Yes	Tuberculosis, 18; diphtheria, 2; typhoid, 5	Yes		Yes	Yes
Woodville	Yes	None	No	No	None	No
Waterford	On complaint.	Tuberculosis, 1	Yes	Yes	No	No
Walkerville	Yes		It is		Yes	Yes
Winchester	General inspection.	None	Yes	Yes; yes	Yes	No; no
Whitby	On complaint.	Tuberculosis, 2	Yes	No occasion.	Not required	No
Woodbridge	Yes	Tuberculosis, 1	Not required	Not required	Not required	Children vaccinated at home.
Wingham	On complaint.	Typhoid, 1; tuberculosis, 1	House placarded	No cases	No	No

TOWNS AND VILLAGES.—*Concluded.*

Are forms for notification supplied to teachers and M.H.O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See sec. 72, Public Health Act. How lincensed and regulated.
No	Wells, 12 to 40 feet.	No	No; fed to pigs.	No	None.....	None.
Yes	From gravel bed	No; no; no.....	None.....	Yes.	No	None.
No	Wells	No; no	No; no ; no....	No	No	None.
No	Wells, 18 to 30 feet.	No	Only one not licensed . ..	No	No	Nons.
Yes	Wells, 10 to 15 feet.	No; no	None.	Yes.	Yes.	None.
Yes.	Wells, 25 to 60 feet.	No; no cases.....	None.	Yes.	No	None.
Yes.	Wells, 14 feet..	No; no	None.....	Yes.	No	None.
Yes.	Waterworks....	No dairies.	None.....	Yes.	No	No.
No	Wells, 20 to 30 feet.	No	None.....	No	No	None.
Yes.	Wells, 16 to 18 feet.	No; no	None in use	No	No	None.
Yes.	From springs...	Yes; no	Yes; cooked and fed to hogs.	Yes.	Yes.	None.
Yes.	Colpoy's Bay and wells.	Yes; no	None.....	Yes.	No	None.
No	Wells, 18 feet...	No	None.	No	No	None.
No	Wells, 25 feet..	No	None.....	No	No	None.
Yes.	Wells	No	None.	Yes.	Yes.	None.
Yes.	....	....	.....	.....	.....	.....
No	Wells, 30 feet...	No	None.	No	No	None.
No	Wells	No	None.	Yes.	No	None.
Yes.	Detroit River...	Inspection of milk is made.	None..	Yes.	Yes.	None.
Yes.	Wells	No dairy	None.....	Yes.	No	Yes.
Yes.	Wells, 16 to 20 feet.	No dairy	No ; offal cooked no.	No	No	None.
Yes.	Wells, 30 feet ..	No dairy	No	Yes.	No	None.
Yes.	Wells, 30 feet...	None.....	None.....	No	No	None.

TOWNSHIPS.

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated.
Alnwick	On complaint.	Tuberculosis, 3.	Yes	Yes	Yes	No; no.
Artimesia	On complaint.	Tuberculosis, 1.	No	No.	No.	No
Alfred	When complaint is made.	Diphtheria, 1; typhoid, 1; tuberculosis, 2.	Yes	Yes; yes.	Yes	No; no.
Ashfield	When Board is notified.	Diphtheria, 3; tuberculosis, 2.	Yes	Yes	Yes	No; no.
Arran	Yes	Typhoid, 1; tuberculosis, 2.	Yes	Yes	Yes	Yes; no.
Amherst Island.	No; no—only on complaint	None	Not required	No cases	No cases	No; no.
Armour	Only on complaint.		Yes; no		Yes, by M. H.O.	No
Arthur	On complaint.	Typhoid, 1; tuberculosis, 1.	Yes; no.	Yes; yes.	Yes, by physician.	Yes; no.
Algona S	On complaint.	None	Yes	Yes; yes.	Yes	No; no
Augusta	Genoral inspection.			Do not know		No
Asphodel	On complaint.		Yes; no	No occasion	No	No; no.
Adlaide	General inspection.		Yes; no	Yes; yes.	No	No
Athol	Action on complaint.	None	No	Yes; yes.	Yes	No; no.
Albermarle	On complaint.		Yes	Yes	Yes	No: no.
Amabel	Yes; yes.	Typhoid, 3; tuberculosis, 4.	Yes	Yes; yes.	Yes	Yes; no.
Anderdon	On complaint.	Typhoid, 1; tuberculosis, 1.	No	Yes; yes.	Yes	No
Ameliasburgh	Yes; yes.		Yes	Yes	Yes	No
Blenheim	General inspection.	Scarlatina, 1; diphtheria, 1; typhoid, 1; tuberculosis, 1.	Isolated in their own homes.	Yes	In most cases.	Yes; no
Brock	Yes; yes		Yes; no hospital.	None reported.	No	Partially.
Bastard and Burgess.	No; no; yes.	None	No; isolated only when cases are reported to Board.	No	No	No; no
Belmont and Mathuen.	Only when complaint is made.	Tuberculosis, 2.	Yes in dwellings; no hospital.	Yes; satisfactory.	Yes	No; no

TOWNSHIPS.

Are forms for notification supplied to teachers and M.H.O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See section 72, Public Health Act. How licens'd and regulated.
No	Wells, 20 feet	No; no	No; offal fed to hogs.	No	No	None.
Yes	Wells, 16 to 60 feet.	No	No	No	No	None.
No	Wells, about 15 feet.	No	No	No	No	None.
No	Wells	No	No	No	No	None.
Yes	Wells	No	No; offal is boiled and fed to hogs	From schools.	No	None.
No	Lake water	No; no	None	No	No	None.
No		No	No.	No	No	None.
Yes	Wells, 15 to 20 feet.	No; no tuberculosis.	Don't know	No	No	None.
No	Wells, 16 feet	No; no	None	No	No	None.
No	Wells, 12 to 30 feet.	Do not know	No; inspected	No	No	None.
Yes	Wells, 15 to 25 feet.	No; no	None in township.	Rural district.	No	None.
No	Wells	Yes	Yes; no	No	No	None.
No	Wells, 20 feet	No; no	None	No	No	None.
No	Wells & springs.	No; no	None	No	No	None.
Yes	Wells, 18 feet	No	Yes	No	No	None.
No	Wells, 50 feet	No	None	No	No	None.
Yes	Wells	No	Yes	Yes	No	None.
Yes	No; wells, from 15 to 30 ft.	No; no cases this year.	No; fed to hogs.	No	No	None.
Yes	No; wells, 20 ft.	No; no tuberculosis.	No; offal is fed to hogs.	No	No	None.
No	No; wells, 10 ft.	No; yes; none used.	No	No	No	None.
Yes	No; wells, 10 to 25 ft.	No; none	None in tp	No	No	None.

TOWNSHIPS —*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Bedford	Action taken when complaint is made.	Tuberculosis, 1..	Yes	No occasion to use it.	Yes	No; no ....
Bosanquet	Yes; general inspection of cheese factories, etc.	Tuberculosis, 4..	Yes	Yes	Yes	Yes; no ...
Burgess, N.....	No ; no	None	.....	.....	.....	No ... .
Bexley	On complaint.	Typhoid, 1	Yes	Yes ; successfully.	No, M.H.O. or attending physician disinfects.	No .....
Burford	Yes ; cheese factories, slaughter houses, etc.	Tuberculosis, 6..	Yes	Yes ; doubtful.	No	No ; no ....
Bayfield	When complaint is made.	Diphtheria, 1...	Yes	Yes	Yes	No Board here.
Brooke	On complaint.	Tuberculosis, 3..	Yes	Cannot say.	Yes	No ; no ....
Bathurst	On complaint.	Diphtheria, 1...	Yes ; no..	Yes ; yes ..	No	No ; no ....
Bertie.....	On complaint.	Typhoid, 1	No	Yes	Yes	No ; no ....
Barton	On complaint.	Tuberculosis, 3..	Yes ; no	Yes	No	No ; no ....
Beverley	On complaint.	.....	Yes ; no	Yes ; yes ..	Yes	No ; no ....
Brant	Yes ; yes ...	.. ..	Yes ; no	Yes ; yes ..	Yes	No ; no ...
Brantford	On complaint.	Typhoid, 1 ; tuberculosis, 4.	Yes ; no	Yes	No	No ; no ....
Blandford	No	Diphtheria, 1 ; Tuberculosis, 4	No	Yes	No	No ; no ....
Brunel	On complaint.	....	Yes	Yes ; yes ..	Yes	No ; no ....
Brighton	On complaint.	....	Yes	Yes	Yes	Yes .....
Bentinck.	Yes ; no.....	Tuberculosis, 6 .	Yes	Yes ; yes ..	Yes	No ; no ....
Caister	Yes	Tuberculosis, 3..	Yes; placards, no hospital.	Yes ; satisfactory.	No . ..	No .....
Carrick	Yes; and when complaint is made.	Scarlatina, 1 ; diphtheria, 1 ; typhoid, 1 ; tuberculosis, 1.	Houses placarded; no hospital	Yes ; satisfactory.	No; only by attending physician.	Yes ; no....
Clarke	Yes; yes	Diphtheria, 1...	No, physicians attend to all cases; no hospital.	Not used ..	Yes	Yes ; no ...
Cornwall	General inspection.	Small-pox, 1 ; diphtheria, 2.	Yes; no hospital	Yes ; yes...	Yes	No ; no ....

TOWNSHIPS.—*Continued.*

Are forms for notification supplied to teachers and M. H. O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See sec. 72, Public Health Act. How licensed and regulated.
No	No ; wells, 8 ft..	No ; no	None	No	No	None.
No	No ; wells, 15 to 30 ft	No	No ; fed to hogs.	No	No	None.
No	Wells, 22 ft	No	None in tp.....	No	No	None.
No	Wells, 20 ft	No ; no	No ; offal buried	No	No	None.
Yes ; to M. H. O.	Wells & springs.	No ; yes.....	Not licensed ; offal fed to hogs.	No	No	None.
Yes	Wells, 25 to 50 ft	No	None	No	No	None.
No	Wells	No	No	No	No	None.
No	....	No	No	No	No	None.
Yes	Wells, 18 to 60 ft	No ; no	No	No	No	None.
Yes	Wells	Yes	No	No	No	None.
Yes	Wells	No ; no	No	No	No	None.
No	Wells	Yes	Yes ; buried....	No	No	None.
No	Wells, 25 ft	Yes ; no	No ; no	No	No	None.
M. H. O. only.	Wells, 15 ft	Not this year.....	No ; inspected..	No	No	None.
No	Spring water ...	No ; no ; no	None in tp	No	No	None.
....	Wells	No	.....	No	No	None.
Yes	Wells, 20 ft.....	None in township.	No	.....	.....	
No	Wells and cisterns.	No ; no	No; offal is cooked before feeding.	Yes.....	No	None.
No	Wells, 10 to 120 feet.	No ; no	No ; but kept in sanitary condition ; no.	Yes.....	No	None.
Physicians only.	Wells & springs.	No ; no	No ; buried or fed to pigs.	House holders attend to this.	No	None.
Physicians only.	. .....	No ; yes ; yes ...	No ; offal is buried ; no inspection.	No	No	None.

TOWNSHIPS.—*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year or is action taken only on complaint.	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory.	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Canboro	When complaint is made.	None	By placards only	Yes	Yes	No; no
Crowland	On complaint.	None reported	No occasion	Don't know.	No	No; no
Carlow	On complaint.	Tuberculosis	Yes	No	No	No
Chandos	When complaint is made.	None	No hospital		Yes	No
Charlotteville	Only on complaint.	Typhoid, 1; tuberculosis, 3.	Isolated in residence.	Yes; good results.	No	No
Caledonia	No; only on complaint.	Scarlatina, 1; diphtheria, 1.	House placarded; no hospital.	Yes; excellent results	Yes	No
Chaffey	On complaint.		Yes; no	None used this year.	Yes	No
Cumberland	On complaint.	Tuberculosis, 2.	No	Yes; yes	Yes	No; no
Cartwright	Yes; yea	Diphtheria, 2	Yes; no	Yes	Yes	No; no
Culross		Typhoid, 1; tuberculosis, 2.				
Caven	No; no; yea.	Diphtheria, 2; tuberculosis, 2	Yes; no	Yea; yea	Yes	No; no
Cambridge	On complaint.	Diphtheria, 1	Yes; no	Yea; yes	Yes	No
Caledon	On complaint.		Yes; no	No	Yea	No
Cardiff	On complaint.	Tuberculosis, 1.	Yes		Yes	No; no
Carnarvon	On complaint.		No	No	Yea	No; no
Cramahe	On complaint.	Scarlatina, 3; diphtheria, 4; typhoid, 1; tuberculosis, 1.	Yes	Yes; yea	No	No; no
Charlottenburgh	On complaint.	Diphtheria, 1; tuberculosis, 6.	Yes; no	Yes; yes	Yea	No; no
Clarence	Yes; yea	Diphtheria, 15; tuberculosis, 3	Yes; no	Yea; yes	Yes	No; no
Cardwell	On complaint.	Diphtheria, 3; tuberculosis, 1.	Yes; no	No	Yes	No
Colborne	No; no; yes		Yea; no	Yes	No	No; no
Caradoc	Yes	Tuberculosis, 1	Yes	Yes	Yes	No; no
Colchester, N	On complaint.	Typhoid, 1; tuberculosis, 3.	Yea; no	Yes; yes	No	No; no
Camden	On complaint.		Yea; no	Yes; yes	Yes	No; no
Carden	On complaint.		Yes; no	No	Yea	No
Darling	No; only when complaint is made.	Diphtheria, 1; tuberculosis, 1.	No; no hospital.	Yes; good results.	Yes	No; no

TOWNSHIPS.—*Continued.*

Are forms for notification supplied to teachers and M.H.O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberbulin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See section 72 Public Health Act. How licens'd and regulated.
No	Wells	No	No; not inspected.	No	No	None.
No	Wells; about 23 ft.	No; no cases of tuberculosis.	No	No	No	None.
No	Wells, 15 to 40 ft	No	None in tp	No	No	None.
No	Mostly springs	No	None in tp	No	No	None.
Yes	Mostly wells	No	No; are inspected	No	No	None.
No		No; no cases reported.	None in corporation.	No	No	None.
No	Wells & springs.	No	Yes; fed to hogs; no.	No	No	None.
No	Wells, 10 to 20 ft	No; no	No	No	None	None.
No	Wells, 24 to 30 ft	No; no cases	None in tp	No	No	None.
	Wells, 20 ft		No	No	No	None.
Yes	Wells & springs, 30 ft.	No; no	No; boiled and fed to hogs.	No	No	None.
Yes	Wells, 25 ft.	No	No	No	No	None.
Yes	Wells	Yes	No	Yes	No	None.
No	Wells	No	None	No	No	None.
No	Wells, 30 ft	No	None	No	No	None
No	Springs	No	None	No	No	Non.
No	Wells, 30 ft	No	No	No	No	None.
No	Wells, 20 ft	No	No	No	No	None.
Yes	Springs	No	None	No	No	None.
No	Wells, 30 ft	No; no	None	No	No	None.
Yes	Wells, 30 ft	No; no	No; offal buried	Yes	No	None.
No	Wells, 20 ft	No; no	None	No	No	None.
No	Wells	No; no	No	No	No	None.
No	Wells, 30 ft.	No	None	No	No	None.
No	Wells, 15 to 20 ft.	No; no	None	No	No	None.

TOWNSHIPS.—*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Draper	.....	None	No ; no hospital.	.....	.....	No .....
Dumfries, S	Yes; yes.	Diphtheria, 1 ; tuberculosis, 2.	Yes ; no hospital	Yes	Yes, in diphtheria cases	Yes ; no....
Day Mills.....	No	None	.....	.....	.....	No .....
Dummer	Action taken on complaint	Tuberculosis, 2.	No hospital	No	Yes	No .....
Drummond	Only when complaint is made.	None	Placard the houses; no hospital.	Don't know.	No, no	No ; no ....
Dunn	On complaint.	None	No hospital	Yes ; results good.	No	No ; no ....
Dalhousie and N. Sherbrooke.	On complaint.	Tuberculosis, 1.	Yes; no hospital	Yes ; good results	Yes	No ; no ....
Delaware	Yes	.. ..	Yes ; no.....	Yes : yes ..	No	Yes .....
Dumfries, N...	Inspection once a year.	Tuberculosis, 1.	Yes : no.....	Yes ; yes ..	Yes	No ; no ....
Derby.....	Yes	.....	Yes ; no.....	.....	Yes	No .....
Dawn	On complaint.	Tuberculosis, 3.	Yes ; no.....	Yes	Yes	No ....
Douro.....	At intervals..	Tuberculosis, 4.	Yes ; no.....	Yes	Yes	No : no ....
Dorchester, N ..	At intervals..	Diphtheria, 1 ..	Yes ; no.....	Yes ; yes ..	Yes	No ; no ....
Dysart	When necessary.	.....	Yes ; no.....	No occasion.	Yes	No ; no ...
Darlington	Yes; yes	Scarlatina, 1 ; typhoid, 4; tuberculosis, 2.	Fairly well	Yes ; yes ..	Yes	No ; no ....
Elderslie	Yes ; yes	None	Yes ; no hospital	Used in some cases.	Yes	Yes ; no ...
Easthope, S	On complaint	None	Left to physicians.	Don't know.	No, under doctor in attendance	No ; no ....
Ellice	On complaint.	Diphtheria, 1 ; typhoid, 1; tuberculosis, 1.	No ; house placarded.	Yes ; good results.	Yes	No ; no ....
Elmsley, S.....	No ; action on complaint	Tuberculosis, 1.	No ; no hospital.	Yes ; no cases in Tp	No	No ; no ....
Egermont	On complaint.	Tuberculosis, 3..	Yes ; dwelling placarded.	Yes	Yes	No ; no ....
Emily..... ...	Only on complaint	Diphtheria, 1...	Yes ; placarding house ; no hospital.	Can't say ..	No	No ; no ....

TOWNSHIPS.—*Continued.*

Are forms for notification supplied to teachers and M. H. O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See sec. 72, Public Health Act. How licensed and regulated.
No	Wells	No cases of tuberculosis.	None	No	No	None.
Yes	Wells and springs.	Yes	Yes; yes	No	No	None.
	Wells	No	None	No	No	None.
Yes	Wells, 15 to 20 ft.	No	None	No	No	None.
Yes	Wells, 50 ft	No	No; offal fed to hogs; no inspection of carcasses.	No	No	None.
Yes	Wells and cisterns, 10 to 25 ft.	No	None in township.	No	No	None.
No	Wells and springs, 10 to 20 ft.	No; no; no	None in township.	No	No	None.
Yes	Wells, 20 ft	No; no	No; offal fed to hogs.	No	No	None.
No	Wells and springs.	Yes; no cases	Yes; fed to hogs; no.	No	No	None.
No	Wells and springs.		No	No	No	None.
No	Wells, 20 ft	No; some cases have occurred.	No	No	No	None.
No	Wells, 20 ft	No; no; no	None	No	No	None.
No	Wells	No; no	No; fed to hogs; no.	No	No	None.
No	Wells	No; no	None	No	No	None.
No	Wells, 20 ft	No; no	No; fed to hogs; no.	No	No	No.
No	Wells, 36 to 45 feet.	No; no cases of tuberculosis.	None in township.			None.
Yes	Wells, about 24 ft.	No	Not licensed; fed to pigs.	No system	No	None.
Yes	Wells, 25 to 100 ft.	No; no	Yes; buried; don't know.	No system	No	None.
No	Wells, 20 to 40 ft.	No; no	Not licensed; buried.	No	No	None.
Yes	Wells, 20 ft	No	None in township.	No	No	None.
Yes	Surface wells, 20 to 30 ft.	No; none	None in township.	No	No	None.

TOWNSHIPS.—*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out. Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Ernesttown	At intervals and on complaint.	Tuberculosis, 3..	Yes, in houses; no hospital.	Yes; successful when used early.	Yes	No; no ....
Edwardsburgh..	On complaint.	. .....	Yes; no hospital	Yes; results good.	No	No .....
Elmsley, N.....	On complaint.	.....	Yes; no.....	Yes; yes...	Yes	No; no ....
Eramosa	On complaint.	....	Yes; no.....	Yes; yes...	Yes	No; no ....
Essa	....	Scarlatina, 1....	Yes; no.....	No occasion.	Yes	No; no ....
Ennismore	On complaint.	.....	No; no	No	No	No; no ....
Ekfrid	On complaint.	Typhoid, 1	Yes; no	Yes	Yes	No; no ....
Elma	At intervals ..	Typhoid, 2	Yes	Yes; yes...	Yes	No; no ....
Esquesing	On complaint.	....	Yes..	Yes; yes...	Yes	Yes .....
Erin	On complaint.	.....	Yes; no.....	No	Yes	Yes .....
Enniskillen.....	At intervals ..	Tuberculosis, 6 .	Not always	Yes	Yes; in some cases.	No .....
Eldon	On complaint.	Tuberculosis, 3 .	No; no	Yes	No	No; no ....
Fredricksburg, S	Yes; yes ...	Tuberculosis, 2 .	Yes; no hospital	Yes	Yes	Yes; yes...
Faraday	Annually, in the spring.	Diphtheria, 1; tuberculosis, 1.	Yes, by placarding.	No	Yes	No; no ....
Flamboro, E....	... .	Tuberculosis, 1 .	Yes	Yes; yes...	Yes	No; no ....
Fullerton	Once each year	....	Yes; no.....	Yes; Yes ..	Yes	Yes; no ...
Fenelon	On complaint.	....	No, only in diphtheria cases.	Yes	No	No; no ....
Floss.....	On complaint.	Tuberculosis, 5 .	Generally	Sometimes..	Yes	No; no ....
Galway, etc	No	....	No	Don't know.	Yes	No .....
Glenelg	On complaint.	Tuberculosis, 5 .	Yes	..... .	Yes	No .....
Greenock	General inspection.	Tuberculosis, 1 .	Yes; no.....	Yes; yes...	Yes	Yes .....
Glanford	On complaint.	Diphtheria, 2; tuberculosis, 1	Generally	Yes; yes...	Yes	No; no ....
Gwillimbury, E.	On complaint.	Tuberculosis, 4; diphtheria, 1.	Yes; no	Yes; yes...	Yes	No; no ....
Georgina	When complaint is made.	None	Yes	No	Yes	No; no ....
Gloucester	General inspection.	.. ..	Yes; no.....	. ....	Yes	.....

TOWNSHIPS.—*Continued.*

Are forms for notification supplied to teachers and M. H. O.?	Is there public water supply? If from wells give usual depth of water bearing stratum?	Is there systematic inspection of dairy cows? Have cases of tuberculois occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by an officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See sec. 72 Public Health Act. How licensed and regulated.
Yes	Wells, 15 ft	No; no; no	Yes; fed to hogs; no.	No	No	None.
No	Wells, 10 to 80 ft.	No	Not licensed	No	No	None.
No	No	No; no	No		No	None.
Yes	Wells	No; no	No; boiling; no	No	No	None.
No	Wells and springs.	No; none	No	Yes	No	None.
No	Wells, 40 ft	No; no; no	None	No	No	None.
Yes	Wells, 100 to 150 ft.	No	No	No	No	None.
No	Wells	No	No; offal boiled and fed to hogs	No	No	None.
No	Wells	No		No	No	None.
	Wells	No	No	No	No	None.
Yes	Artesian wells	No	No; offal fed to hogs.	Yes	No	Petroleum refinery, etc.
No	Wells, 50 ft	No	No	No	No	None.
Yes	Wells, various depths.	Yes	None in township.	Yes	No	None.
No	Wells, 10 to 60 ft.	No; no tuberculosis.	None	No	No	None.
Yes	Wells, 35 ft	Yes; no	No; offal destroyed; no.	No	No	None.
No	Wells	No; no	No; fed to hogs.	No	No	None.
No	Wells, 15 to 20 ft.	No	No; fed to hogs; no.	No	No	None.
No	Wells, 12 to 100 ft.	No	No	No	No	None.
No	Don t know	No	None	No	No	None.
Yes	Wells and springs.	No dairies	None	No	No	None.
Yes	Wells, 20 ft	No	Yes; offal buried	No	No	None.
Yes	Wells, 15 to 100 ft.	Yes; no	No; offal fed to hogs.	No	No	None.
Physicians only.	Wells, 30 ft	No	No; buried or fed to hogs.	No	No	None.
No	Wells	No; no	No	No	No	None.
	Wells			No	Yes	Piggeries.

TOWNSHIPS.—*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Gower, N	No; action on complaint.	Diphtheria 1; tuberculosis 5.	No; no hospital.	Yes; 2 cases treated, with 1 death	No	No; no.....
Gower, S.	On complaint.	Tuberculosis 3.	No	Don't know.	No	No; no.....
Griffith and Mattawachan.	When complaint is made.	None	Yes	Yes.	Yes.	No; no.....
Grattan	No; No only on complaint	Scarlatina 1	No	Yes.	Yes.	No; no.....
Garafraxa, W...	Yes; Schools yearly.	.....	Yes; patient placed in upper room.	Yes; not required this year.	No	Yes; no ....
Goulbourn.....	On complaint.	None	Yes; no hospital	Yes; results good.	Yes.	No; no.....
Guelph.....	When complaints are made.	Typhoid 1; tuberculosis 3.	Yes	Yes; good results.	Yes.	Yes.....
Grimsby, S.....	On complaint.	None	Yes	Not required this year.	Yes.	No; no.....
Gordon	No; No	None	No	No	No	No . . ...
Gwillimbury, N.	No	Diphtheria 1; tuberculosis 3.	Yes.	Yes; said to be good.	Yes.	No .....
Gwillimbury, W.	Only on complaint.	None	....	.....	.. ..	No; no.....
Grey.	Yes	None	Yes; no hospital	Yes.	Sometimes .	Yes; no....
Gosfield, N.....	Only on complaint.	None	Yes; quarantine.	Yes; most satisfactory.	Yes.	Yes; no....
Gosfield, S	.....	.. ..	.....	.....	.....	.....
Grantham.....	On complaint.	Tuberculosis 1 ..	Yes.	Don't know.	No	No; no.....
Goderich	When complaint is made.	None	Not necessary ..	Don't know.	No	No; no.....
Gainsboro	On complaint.	.....	No	No	No	No; no.....
Glanmorgan ...	On complaint.	.....	Generally	No	Yes.	No; no.....
Garafraxa, E...	General inspection.	....	No	No	No	No; no.....
Hawkesbury, E.	On complaint.	Scarlatina 1; typhoid 2; tuberculosis 7.	Yes.	Yes, very good.	Yes.	No .....

TOWNSHIPS.—*Continued.*

Are forms for notification supplied to teachers and M.H.O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See sec. 72 Public Health Act. How licensed and regulated.
No	Wells, 15 feet ..	No; no test for tuberculosis.	No; no	No	No; no.....	None.
No	.....	No; don't know...	None in tp	No	No	None.
No	Springs	No	None in tp	No	No	None.
No	Wells, 10 to 12 feet.	No; no	Not licensed; no inspection of carcasses.	No	No	None.
Yes	Wells, 15 feet ..	No dairy here	Not licensed; offal buried; no.	No	No	None.
No	Wells	No	None in tp.	No	No	None.
Physicians only.	Wells, average 6 feet.	No systematic inspection.	No; inspected; offal boiled and fed to hogs.	Yes.	No	None.
Yes	Wells, 12 to 30 feet.	No; no	None in tp.	Yes.	No	None.
No	Wells, 12 to 20 feet.	No	None in tp.	No	No	None.
No	Wells	No	None in tp.	No	No	None.
No	Wells, 20 to 50 feet.	No; no	None in tp.	No	No	None.
No	Wells, 12 to 16 feet.	No	No; but are inspected.	No	No	None.
No	Artesian wells..	No; no; no.....	Yes; no.....	No	No	None.
.....	.....	....	....	.....	.....	....
No	Wells	No; no; not tested.	Not licensed....	No	No	None.
No	Wells, 20 to 25 feet.	No	No; don't know.	No	No	None.
No	Wells, 25 feet...	No; no	No	No	No	None.
No	Wells, 20 feet ..	No; no	None	No	No	None.
No	Wells, 25 feet ..	No	None	No	No	None.
Yes.....	Wells, 10 to 30 feet.	No	No; offal buried; no inspection.	Yes.	No	None.

TOWNSHIPS.—*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children, vaccinated?
Hamilton.....	On complaint.	Diphtheria 1; typhoid 1; tuberculosis 1.	Yes; no hospital	Yes.	Yes	Yes .....
Huron	Yes; Yes	Tuberculosis 4 .	Yes.	No occasion to use it.	Not always.	No; no.....
Hullett	Acton on complaint.	Tuberculosis 5 ..	No hospital.....	Yes; no cases this year.	Yes	No; no.....
Hillier	No; No; Yes.	Typhoid 1	No	Yes.	Yes	No .....
Hilton	When complaint is made.	Tuberculosis 1 ..	Yes.	No cases ...	.....	No .....
Harvey	Yes, annually	Tuberculosis, 1 .	Yes, no hospital	No cases ...	Yes	No .....
Hallam	.....	None	Houses plac'rded	Yes; successful.	Yes	No ....
Head, Clara and Maria.	No; No	None	Yes.	....	Yes	.....
Humberstone ..	Yes; Yes	Tuberculosis 1 ..	Yes.	Yes.	Not always.	No .....
Huntingdon	When complaint is made.	Tuberculosis 3 ..	Yes; house placarded.	Yes; satisfactory.	No; physician in attendance does it.	No; no.....
Hinchinbrooke..	No; No; Yes..	Diphtheria 1; tuberculosis 2.	No; none; none.	Yes; satisfactory.	No.	No; no.....
Haldimand	Action on complaint.	Typhoid 4, tuberculosis 3....	Yes, in private houses.....	Some use it.	No	No; no.....
Hallowell	At intervals ..	Typhoid, 2; diphtheria, 1.	Yes.	.....	No	No; no.....
Huntley.... ...	On complaint.	....	Yes; no.....	Yes; yes....	Yes	.....
Horton	No; No, Yes..	Tuberculosis, 1 .	Yes; no.....	Yes; yes....	Yes	No; no.....
Hay	Schools and slaughter houses are.	Diphtheria, 1; tuberculosis, 7.	Yes.	Yes; yes....	Yes	Yes; no....
Houghton	On complaint.	None.....	Yes; no	Don't know.	No	No; no.....
Innisfil	On complaint.	Scarlatina, 1; tuberculosis, 1.	Yes.	Yes.	Not all cases	No .....
Jocelyn	No	None.....	Not required ...	No	No	No; no.....
Kennebec	.....	Diphtheria, 2; typhoid, 1.	Yes.	Yes; good results.	Yes	No; no.....
Kingston	On complaint.	None.....	Don't know	No diseases.	No	No .....
Kinloss	On complaint only.	Tuberculosis, 4..	No	No; occasionally used.	Yes	No; no.....
Keppel	Yes; Yes....	Tuberculosis, 1..	Yes, in houses..	Yes.	Yes	No; no.....

TOWNSHIPS.—*Continued.*

Are forms for notification supplied to teachers and M. H. O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See section 72, Public Health Act. How licens'd and regulated.
No	Wells, 18 to 30 feet.	Yes ; no ; no.....	Yes; offal buried; no inspection.	No	No	None.
M. H. O. only.	Wells, about 25 feet.	No ; yes, one; no..	Yes; offal buried; no.	No	No	None.
No	Wells, 20 feet .	No ; no test used..	No	No	No	None.
Yes	Wells, 20 feet ..	No ; no	No	No	No	None.
No	Springs	. ...	None	No	No	None.
M. H. O. only.	Wells, 14 feet ..	No; no;no	None in tp.	No	No	None.
Yes	Wells, 15 feet ..	No	No	No	No	None.
.....	Springs	No	None in tp.	No	No	None.
No	Wells, 15 to 100 feet.	No tuberculosis ..	No; offal buried.	Yes.	No	1 hide packing house.
No	Wells	No ; no	No ; in sanitary condition.	No	No	None.
No	Wells, 10 feet ..	No ; no ; no.....	None in tp.	No	No	None.
Yes	Wells, 30 feet ..	No ; no ; no.....	No ; fed to hogs; no.	No	No	None.
No	Wells	.....	....	....	No	None.
.....	Wells	... .	....	No	.....	.....
No	Wells	No ; no	None	No	No	None.
No	Wells, 40 feet .	Yes ; no.....	No; buried; no..	No	No	None.
No	Wells. 40 feet ..	No ; no , no	None	No	No	None.
Yes.	Wells, 20 to 50 feet.	No ; no cases reported.	No; fed to hogs.	No	No	None.
No	Wells, 15 to 125 feet.	No ; no ; no	None in tp.	No	No	None.
No	Wells, 12 to 20 feet.	No ; no	None in tp.	No	No	None.
No	Wells, 8 feet....	No ; no	None in tp.	No	No	None.
No	Wells	No ; tuberculin has been used.	None in tp.	No	No	None.
Yes	.....	No ; no	No; buried; no..	No	No	None.

TOWNSHIPS.—*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases, number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Kincardine	On complaint.	Scarlatina, 1; typhoid, 3: tuberculosis, 3.	Yes.	No	Yes	No; no ....
Leeds & Land. Front	On complaint.	....	No	Yes, good results ...	No	No .....
Lavant	No inspection.	.....	No	No	No	No .....
Lobo	On complaint.	Typhoid 1; tuberculosis 2.	Yes.....	No occasion.	Yes	No .....
Limerick	No	None	No..... ...	No	No	No .....
Laird	On complaint.	Tuberculosis 1..	No	No	No	No .....
London	On complaint.	Tuberculosis 7..	No; No	Yes; Yes ..	No	No .....
Lancaster	On complaint.	Tuberculosis 4..	Yes; No	No	Yes	No; No ....
Lanark	General Inspection.	Tuberculosis 3..	Yes; No	Yes; Yes ..	Under direction of M. H. O.	No; No ....
Lindsay & St. E.	On complaint.	None.....	None...	None	Yes.....	.....
Laxton, D. & L.	At intervals..	None.....	Yes; No	Yes; Yes..	Yes	No; No ....
Luther, W	No; No	Diphtheria 1....	Yes; No	Yes; Yes..	Yes	No; No ....
Luther E.....	Yes; Yes	Typhoid 1; tuberculosis 4.	Yes; No	Yes; Yes..	Yes	No; No ....
Logan.....	General Inspection	Diphtheria 1; tuberculosis 5.	No	.....	Yes	.....
Monaghan, N...	Yes.....	Tuberculosis, 1.	Yes	....	Yes.....	No; no ....
Minden.....	On complaint.	None.....	Yes	Yes.....	No...	No.....
Malden.....	On complaint.	.....	Yes; no hospital	Yes	It is in small pox cases.	No.....
Minto.....	On complaint.	None.....	Yes	No.....	No.....	No..... .
Melancthon.....	On complaint.	Tuberculosis, 1.	Yes; no hospital	Yes; results good.	No.....	Yes .....
Moulton	No; on complaint.	Tuberculosis, 2..	Yes; no hospital	Don't know.	Yes.....	No; no ....
Matchedash	On complaint.	None..... ...	No cases.....	Not required	When necessary.	Yes .....
Madoc.....	On complaint.	None.....	Yes; no hospital	Yes; satisfactory.	No; left to physicians.	No; no ....
Marysburg, S...	On complaint.	Tuberculosis, 2.	Yes; no hospital	Yes; satisfactory.	Yes; M.H.O attends to it	No; no ....
Marysburg, N..	At intervals..	Tuberculosis, 2.	Yes; no hospital	Don't know.	Yes.....	No; no ....

TOWNSHIPS —*Continued.*

Are forms for notification supplied to teachers and M. H. O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See sec. 72, Public Health Act. How licensed and regulated.
Yes	Wells	No	No; fed to hogs; no.	No	No	None.
No	Wells, 16 ft . .	No	Not licensed....	No	No	None .....
No	Spring water ...	No	No	No	No	None .....
No	Wells, 12 to 75 ft.	No; No	None in Tp.....	No	No	None .....
No	Springs	No	None in Tp.....	No	No	None .....
No	Surface water ..	No	None in Tp.....	No	No	Nooe .....
No	Springs and wells 40 ft.	No	Yes; fed to pigs; No.	No	No	Bone boiling
No	Wells, 20 ft.	No; No.....	Don't know	No	No	None .....
No	Wells and springs.	No; one herd examined by Inspector; No.	None	No	No	None .....
.....	....	None	None	No	No	None .....
Yes	Wells and springs.	No; No; No	None	No	No	None .....
Physicians only.	Wells	No	None	No	No	None .....
No	Wells, 40 ft.....	No	No; buried; No.	No	No	None .....
.....	Wells	No	.....	No	No	None .....
No.....	Wells, 18 to 20 ft.	No; no; no	Yes; boiled	No	No	None.
No.....	Springs and wells.	No; no.	None in tp ...	No	No	None.
No.....	Wells 75 to 100 ft.	No; no.....	No; offal fed to hogs.	No	No	None.
M.H.O. only	Wells, 20 to 25 ft.	No; none	Yes; fed to hogs	No	No	None.
M.H.O. only	Wells, 20 to 100 ft.	No.....	No	No	No	None,
No.....	Wells, 6 to 16 ft.	No; no.....	No; No.....	No	No	None.
No.....	Wells, about 16 ft.	No; no; no inspection.	None in tp.....	No	No	None.
No.....	Wells	No; don't know ..	None in tp	No	No	None.
No.....	Wells, 40 to 50 ft	No; none	None in tp	No	No	None.
No.	Wells, 20 ft.....	No.	None in tp.	No	No	None.

TOWNSHIPS.—*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Marlborough ...	On complaint.	Tuberculosis, 1.	Yes; no hospital	Not required	No.....	No; no ....
Monmouth	No; yes.....	Tuberculosis, 1.	Yes; no hospital	No cases....	No.....	No; no ....
Medora and Wood	.....	Tuberculosis, 1.	No; no hospital	No.....	Always	Yes; no....
Monck	On complaint.	None.....	Yes; no hospital	. . . .	By attendl'g physician.	No..... ...
Maidstone	On complaint.	....	Not always.....	Don't know.	Yes.....	No.....
Marmora and Lake	On complaint.	.....	....	Yes; yes...	.....	No; no ....
Mariposa.	Yes; yes.....	Diphtheria, 3; tuberculosis, 6.	Yes; no	Yes; yes...	Yes.....	Yes; no....
Macdonald, M. and A.	....	.....	No.....	No..... ..	No.....	No.....
Muskoka.	On complaint.	....	Yes	Yes	Yes.....	No.....
Mono	On complaint.	Typhoid, 1; tuberculosis, 3.	No; no.....	Don't know.	No.....	No.....
Macaulay.....	On complaint.	.....	Yes; no.....	Don't know.	Yes.....	No.....
Mara	On complaiot.	Diphtheria, 1...	Yes; no.....	Yes; yes...	Yes	No; no ....
McMurrich.....	General inspection.	....	.....	.....	Yes.....	... .
Medonte.....	On complaint.	.....	Yes; no	Yes	Not always.	No; no ....
Metcalfe.....	Once a year...	Typhoid, 1.....	Yes; no.....	Yes	Yes.....	Yes; no....
March	On complaint.	....	Yes; no.....	Yes; yes...	No.....	No; no ....
Middleton	At intervals ..	.....	Yes; no.....	.. ..	Yes.....	No. .... ..
Mersea.....	On complaint.	Diphtheria, 1; typhoid, 3; tuberculosis, 3.	Yes; no.....	Yes; yes ...	Yes	No.....
Mornington	General inspection.	Typhoid, 1; tuberculosis, 3.	Yes; no	Yes	Yes.... ...	No; no ..
Murry..... .	Yes; yes.....	None.....	Yes	Yes; yes ..	Yes.....	No.....
Manvers.....	On complaint.	.....	Yes; no.....	No.....	Yes.....	No; no ....
Mayo.....	On complaint.	Tuberculosis, 1.	No.....	No.....	....	No..... .
McNab	General inspection.	Diphtheria, 1; tuberculosis, 3.	Yes; no.....	Yes; yes...	Yes.....	No; no ....
McKillop	General inspection.	Tuberculosis, 1.	....	Don't know.	No.....	No.....

TOWNSHIPS.—*Continued*

Are forms for notification supplied to teachers and M.H.O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewage system?	State No. and kind of noxious trades. See Sec. 72, Public Health Act. How licensed and regulated.
No	Wells, 20 to 25 ft.	No; no	None in tp.	No	No	None.
No	Wells and streams.	No; no	None in tp.	No	No	None.
No	Lake water generally.	No; no	Not licensed offal buried.	No	No	None.
No	Wells, 10 to 20 ft.	No; no.	Only 1 in tp	Well as possible.	No	None.
Yes	Wells and springs.	No; no; no	No	No	No	None.
No	Wells, 40 ft.	No.	No	No	No	None.
Yes	Wells, 20 ft.	No; no; no	No; fed to hogs.	No	No	None.
No	Springs.	No	None	No	No	None.
No.	Wells, 20 ft.	No inspection	No; No	No	No	None.
No.	Wells, 20 ft.	No; no.	No; fed to hogs.	No	No	None.
No	Wells	No dairy	None	No	No	None.
No	Wells and springs.	No; no.	No; buried; no.	No	No	None.
	Wells and springs.		None	No	No	None.
Yes	Wells and springs.	No; no.	No	No	No	None.
No	Wells	No	None	No	No	None.
Yes	Wells and springs.	Not always.	None	No	No	None.
Yes	Wells and springs.			No	No	None.
Yes	Wells, 10 to 20 ft.	No; no.	No; offal buried.	No	No	None.
Yes	Wells. 25 ft.	No	No; offal burned; no.	No	No	None.
Yes	Wells	No	Yes; buried; no	No	No	Slaughter houses.
No	Wells and springs.	No; no.	No; no	No	No	None.
No	Wells and springs.	No	No	No	No	None.
Yes	Spring and wells, 12 ft.	Yes; no	No; buried	No	No	None.
Yes	Wells, 30 ft.	No	None	At school houses.	No	None.

TOWNSHIPS.—*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria antitoxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
McLean and R.	Once a year..	....	Yes; no.. . . .	No occasion to use it.	Yes	Yes.. ...
Normandy	Yes; yes.....	Diphtheria, 1; typhoid, 1; tuberculosis, 2.	Yes; no hospital.	Yes; results good.	Yes, by M. H. O.	No; no ....
Nichol	No; when complaint is made	Typhoid, 1; tuberculosis, 3.	Yes; house placarded.	No	Yes	No; no ....
Nissouri, W....	Yes; yes.....	Scarlatina, 3; tuberculosis, 3.	Yes; no hospital.	Yes; satisfactory.	Yes	No; no ....
Nepean	No; on complaint.	Diphtheria, 5...	Yes; as far as possible.	Generally used; good.	Yes	No; no ....
Norwich N.	Yes	.....	Yes	Yes; yes...	Yes	Yes; no ...
Nottawasaga ...	On complaint.	Typhoid, 1.	.....	No	No	No; no ....
Nissouri, E.....	On complaint.	Typhoid, 2	Yes; no.....	Yes; yes ..	Yes	No; no ....
Oso	No; no; on complaint.	None	Yes; no hospital.	Yes; good.	Yes	Yes; no....
Ops.....	Yes; yes ...	Tuberculosis, 2..	Yes; no hospital.	Yes; yes...	Yes	Yes .....
Oakley	On complaint.	Tuberculosis, 1..	Not required ...	No	No	No .....
Otonabee.....	On complaint.	Tuberculosis, 4..	.....	No	In some cases	No; no ....
Oro	On complaint.	None	Yes	Yes	Usually .. .	No; no ....
Oakland.....	On complaint.	Tuberculosis, 1..	No; no	.....	Yes, by M. H. O.	No ....
Orford	On complaint.	Typhoid, 1; tuberculosis, 3.	By placarding premises; no.	.....	Doctors attend to it.	No; no ....
Oxford	No	None	No	No	No	No .....
Oxford, E	Yes; yes.....	Scarlet fever, 1; tuberculosis, 2.	Yes; by placarding.	Yes; results good.	No	Yes; no....
Oxford, W. ...	When complaint is made	....	Yes; no.....	Yes; yes...	Yes	Yes; no ...
Oxford, N ...	General inspection.	....	Yes; no.....	.....	Yes	Yes ... ..
Orillia.....	On complaint.	Scarlatina, 1; tuberculosis, 9.	Yes; no.....	Yes; yes .	Yes	No; no ....
Osnabruck	On complaint.	Tuberculosis, 14.	No	No	Yes	No .....
Paslinch	Twice yearly..	None	House placarded; no hospital	No	Yes	No; no ....
Plympton	On complaiut.	Diphtheria, 1; typhoid, 1.	Yes; no hospital.	No	No, done by attending physician.	No; no ....
Petewawa.. ...	.....	None	No	Yes	Yes	Yes; no ...

TOWNSHIPS.—*Continued.*

Are forms for notification supplied to teachers and M. H. O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officers of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See sec. 72 Public Health Act. How licensed and regulated.
No.	Wells, 20 ft.....	No; no.....	No; buried	It is removed	No	None.
Yes	Wells & springs.	No dairy cows; no tuberculosis.	Only one in Tp..	House-holders look after their own.	No	None.
No	Wells.....	No; can't say	Yes; yes; no ..	No	No	None.
Yes	Wells, 20 ft....	No; none	Yes; by boiling; no.	No	No	None.
Yes	Wells; varies greatly.	Yes; no	Yes; offal used as fertilizer.	Yes	No	None.
.....	Wells; 35 ft....	No	Yes; no.....	No	.....	None.
No	Wells	No; none	None	No	No	None.
..... .	.....	No	No	No	No	None.
Yes	Springs	No; no	None in Tp.....	Yes	No	None.
....	Wells; 10 to 60 ft.	No tuberculosis ..	Yes; offal fed to pigs.	No	No	None.
No	Springs	No; no	None in Tp.....	No	No	None.
No	Wells; 18 ft....	No	Offal fed to hogs.	No	No	None.
No	Wells, 12 to 100 ft.	No	No; fed to hogs.	No	No	None.
.....	Wells; 20 ft....	No	No; fed to hogs.	No	No	None.
No	Wells	No; no; none reported:	No	No	No	None.
No	Wells; 20 ft....	No	None in Tp.....	No	No	None.
No	Wells	No; no tuberculosis reported.	No; offal fed to hogs.	No	No	None.
No	Wells	No; no	No; no	No	No	Sewage from Woodstock.
No	Wells	No; no	No	No	No	None.
No	Wells; 35 ft....	No; none	No; buried	No	No	None.
Yes	Wells; 30 ft....	No; no	None	No	No	None.
No	Wells; 10 to 70 ft.	No; no tuberculosis.	Yes	.....	.....	None.
M.H.O. and all physicians get them.	Wells; 12 to 30 ft.	No; fed to hogs and burned.	No	No	No	None.
No	Wells; 16 ft....	No; no dairy cows	None in Tp	No	No	None

TOWNSHIPS —*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Pembroke	On complaint.		Yes	Yes; yes	No	No; no
Plantagenet, N.	Occasionally	Scarlatina, 2; tuberculosis, 9.	Yes; no	Yes; yes	Yes	No; no
Palmerston, etc.	On complaint.	Tuberculosis, 1	Yes	Don't know.	Yes	No
Pelham	General inspection		Yes		Yes	No
Percy	General inspection.	Tuberculosis, 1	Yes; no	Yes	Yes	Yes; no
Pickering	Yes; yes	Scarlatina, 2; diphtheria, 5; typhoid, 1; tuberculosis, 8.	Yes; no	No	Yes	Yes; no
Radcliffe and Raglan.	No	None	No	No	Yes	
Rayside	On complaint.	None	No	No	No	No
Ryde	On complaint.	None	Yes; no hospital		Yes	No; no
Rolph B. and Wylie.	On complaint.	Tuberculosis, 1	No	No	No	No
Raleigh	On complaint.	Tuberculosis, 8	Yes, placarded; no hospital.	No, used by some; results good.	No	No
Rainham	Don't know	Tuberculosis, 2	Yes; no hospital	Yes	Yes	No
Reach		Typhoid, 3; tuberculosis, 7.	Only when reported.	Yes; yes	Yes	Yes; no
Ross	Yes; twice yearly.		Yes; no	Yes; yes	Yes	No; no
Rama	On complaint.		Yes; no	None this year.	Yes	No
Richmond	On complaint.	Tuberculosis, 4	Yes	Yes; yes	Yes	No
Sandfield	No; no	None		Don't know.		No; no
Sherbrooke, S.	On complaint.	Tuberculosis, 1	Yes	No	Yes	No; no
Seneca	General inspection.	Tuberculosis, 3	Yes; no hospital	Yes	Under doctor in attendance.	No; no
Sophiasburg	On complaint.	None	House placarded; no hospital	Think not	Yes, doctor in attendance.	No; no
Sydenham	On complaint.	None	Yes	No	Yes	No; no
Sebastopol	No	None	No	No	No	No

TOWNSHIPS.—*Continued*

Are forms for notification supplied to teachers and M.H.O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See sec. 72, Public Health Act How licensed and regulated.
No	Wells	No; no	No	No	No	None.
No	Springs & wells.	No	No	No	No	None.
No	Wells; 16 to 30 ft.	No	No	No	No	None.
Yes	Wells	No	.....	.. . .	.....	....
No	Wells	No	No; offal fed to hogs.	No	No	None.
Yes	Wells; 12 to 80 ft.	No; no	Yes; buried; no.	No	No	None.
....	....	No	None in Tp	No	No	None.
No	Wells; 16 to 40 ft.	No; no tuberculosis.	None in Tp	No	No	None.
No	Wells; 30 ft....	No	None	No	No	None.
No	....	No	None in Tp	No	No	None.
No	Artesian wells; 9 to 100 ft.	No; no	No; buried no inspection.	No	No	None.
No	Wells; 20 ft....	No	None in Tp	No	No	None.
No	Wells; 20 to 50 ft.	No	No; but kept in good order; no	No	No	None.
No	Wells; 15 ft....	No	None	No	No	None.
No	Wells; 15 ft....	No; no	No; offal fed to hogs.	No	No	None.
Yes	Wells; 20 ft ...	No; no	None	No	No	None.
No	Wells & streams.	No; no	None in Tp . ..	No	No	None.
No	Wells; 10 to 20 ft.	No inspection	None in Tp ...	No	No	None.
Yes	Wells, springs and cisterns.	No	No	Yes	No	None.
No	Wells; 20 ft....	No; no	No; don't know; no.	No	No	None.
Yes	Wells; 10 to 30 ft.	No; no; no.....	None in Tp	No	No	None.
No	Wells & springs.	No	None in Tp	No	No	None.

TOWNSHIPS.—*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection of contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Scugog	On complaint.	None	Yes	No cases....	No	No .....
Stanhope	On complaint.	None	Yes	No cases....	Yes	No; no ...
Sullivan.	On complaint.	Diphtheria, 1; tuberculosis, 4.	Yes	Don't think so.	Yes	No .....
Sherbrooke	On complaint.	None	Yes; no hospital	Yes	Yes	No .....
Sunnidale	Yes : yes	....	Yes; no.....	Yes; yes...	By M. H. O.	Yes; no ...
Somerville	Yes; yes	.....	Yes	Don't know.	Yes	No .....
Sidney	.....	Diphtheria, 1; tuberculosis, 4.	Yes; no.....	Yes; good.	Yes	Yes; no....
Sault Ste. Marie	On complaint.	....	Yes: no.....	.....	No	No .....
Stafford	On complaint.	Diphtheria, 1...	Yes; no	Yes; yes .	Yes	No ....
Stamford	At intervals ..	....	No; no	No	No	Yes.....
Sarnia	General inspection.	Tuberculosis, 2..	Yes; no	Don't know.	In some cases.	No .....
Saugeen.	Cheese factories, etc.	Tuberculosis, 2..	Yes; no	Yes.....	Yes	No .....
Saltfleet	At intervals..	Diphtheria, 1; typhoid, 7.	Yes; no	Yes; yes...	Yes	Yes; no....
Sarawak	General	None	Yes, in house...	Don't know.	Yes, by M. H. O.	Yes.....
Scott	On complaint.	Diphtheria, 1; typhoid, 1.	No	No	Yes	No .....
Southwold	General inspection.	Tuberculosis, 3..	Yes, by M.H.O.	No	Yes, by M. H. O.	Yes; no....
Stephen	When complaint is made.	Typhoid, 2; tuberculosis, 2.	Yes; no.....	Yes; yes...	Yes	No; no ....
St. Joseph.....	.....	None	.....	.....	.....	Yes; yes...
Thorah.....	On complaint.	Tuberculosis, 3..	Yes, placarding; no hospital.	Yes	Yes	No; no ....
Townsend	When ordered by the Board	Diphtheria 1; tuberculosis, 1.	No	Don't know.	Yes	No .....
Thessalon	On complaint.	Typhoid, 1; tuberculosis, 2.	Yes	No	No	No; no ....
Tay	On complaint.	Tuberculosis, 3..	No	Used sometimes.	No	No; no ....
Tehkummah ...	On complaint.	None	.....	.....	No	No; no ....
Thurlow	On complaint.	Scarlatina, 1; diphtheria, 1; tuberculosis, 10.	No	Don't know.	Don't know.	No .....

TOWNSHIPS —*Continued.*

Are forms for notification supplied to teachers and M. H. O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is these systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See sec. 72 Public Health Act. How licensed and regulated.
No	Wells; 20 to 40 ft.	No; no; no	None in Tp ...	No	No	None.
No	Wells; 20 to 40 ft.	No; no	None in Tp	No	No	None.
Yes	Wells; 10 to 30 ft.	No	Yes; no	.....	No	None.
No	Wells; 9 to 18 ft.	No; no	None in Tp	Yes	No	None.
Yes	Wells	No	No; destroyed; no.	No	No	None.
Yes	.....	No	No	No	No	None.
Yes	Wells	No; no	Yes; buried....	Yes	No	None.
No	Springs & wells.	No	None	No	No	None.
No	Wells; 20 ft....	No; no	None	No	No	None.
Yes	Wells; 30 ft....	Yes; no; yes	Yes; fed to hogs	No	No	None.
Yes.....	Wells	Yes; no	No; don't know	No	No	Slaughter house.
Yes.....	Saugeen River and wells	No; no; no.....	No; offal fed to hogs.	Yes	o	Slaughter-houses.
Yes..... ..	Wells; 20 ft....	Yes; no; no	No; used as fertilizer; no.	Yes	No	Slaughter houses.
Yes	Wells; 40 ft....	Yes; no cases	No	Yes	No	Slanghter houses.
No	.....	.....	.....	.....	.....	.....
No.	Wells; 20 ft....	Yes; no	No; boiled; no.	No	No	None.
Yes.....	Wells	No; no; no.....	No; fed to hogs.	No	No	None.
No	Wells	No	No; offal buried	....	No	None.
No.....	Wells; average 25 ft.	Yes	Not licensed; buried; no.	No	No	None.
No	Wells	No	No	No	No	None.
No	Wells; 8 to 20 ft.	No; no; no.....	No; no	No	No	None.
No	Wells; 15 to 100 ft.	No; no	No; don't know; no.	.....	....	None.
No	Wells	No	None in Tp.....	Yes	No	None.
No	Wells; 10 to 25 ft.	No; no; no.....	No; offal fed to hogs; no.	No	No	None.

TOWNSHIPS.—*Continued.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint.	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Tyendinaga	On complaint.	Tuberculosis, 3..	No	Yes; good..	By doctor in attendance	No; no ....
Toronto Gore...	.....	None	No	Not in use..	No	No; no ...
Turnberry.....	On complaint.	Typhoid, 1	Placard; no hospital.	No cases ...	No	No; no ....
Tuckersmith ...	On complaint.	Diphtheria, 1; tuberculosis, 2.	....	Yes	Yes	No .....
Tecumseth	No.....	None	Don't know ...	No	No	No .....
Toronto	At intervals ..	Diphtheria, 1; tuberculosis, 2.	Yes	Yes	Not always.	Yes; no....
Tilbury, N	On complaint.	Typhoid, 2; tuberculosis, 1.	.....	.....	... .	.....
Uxbridge	On complaint.	Diphtheria, 3; tuberculosis, 3	Yes, by isolating patient.	Used several times; no.	Yes	No; no ....
Vespra	On complaint.	None	No	No	Yes	No; no ....
Westmeath	No	None	No	No	Yes	Yes .....
Wainfleet	On complaint.	Tuberculosis, 3..	Yes	Some used it; results good.	No	No; no ....
Walford.	On complaint.	Tuberculosis, 2..	Yes	Used sometimes.	Yes	No; no ....
Wilmot	Yes; yearly..	Diphtheria, 1...	Yes; no hospital	Yes when used early	Yes	No .....
Wallace	On complaint.	Tuberculosis, 2..	Yes	No	Not always.	No; no.....
Wawanosh, W..	On complaint.	Tuberculosis, 1..	Yes	Yes	Yes	No; no ....
Winchester. ...	.....	Diphtheria, 3; typhoid, 1; tuberculosis, 2.	Yes; no hospital	Yes	Yes	Yes no.....
Wilberforce and N. Algona.	No; on complaint.	Tuberculosis. 4..	No; none	Yes; yes ...	No	No; no.....
Woolwich	On complaint.	.....	Yes; yes	Yes; yes ..	Yes	Yes; yes...
Walsingham, S.	Yes	Typhoid, 1; tuberculosis, 2.	Yes	Yes; yes ...	Yes	No; no.....
Whitchurch	.....	Diphtheria, 3; tuberculosis, 2.	Yes; no.....	Yes; good..	Yes	No; no.....
Waterloo.....	Yes	....	Yes	Yes	Yes	....
Watt	Yes	Diphtheria, 3...	Yes	....	... .	... .
Westminster ...	Yes	.....	Yes	....	Yes	Yes .....

TOWNSHIPS.—*Continued.*

Are forms for notification supplied to teachers and M. H. O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See section 72, Public Health Act. How licensed and regulated.
No	Wells & springs.	No; no; no.....	No; fed to pigs.	No	No	None.
Yes.....	Wells; 20 to 30 ft.	No; no; no	None in Tp.....	No	No	None.
When necessary.	Wells; average 25 ft.	No; no	No; fed to hogs; no.	No	No	No.
No	.....	.....	Inspected by the Board.	....	....	No.
No	Wells	No; no	No	.....	No	No.
.....	Wells	No	No, but in good condition.	No	No	None.
....	.....	.....	.....	.....	.....	None.
Yes	Wells; 12 to 120 ft.	No; no	None in Tp.....	No	No	None.
Yes	Wells; 30 to 130 ft.	No	No; yes.....	No	No	None.
No	Wells	No	None	No	No	None.
No	Wells; 10 to 20 ft.	No; no	No; no	No	No	None.
Yes	Wells; 15 to 40 ft.	No; no	None	No	No	None.
Yes to M. D's.	Wells & springs	No	No; buried; no.	No	No	None.
Yes	Wells	No	No; buried; no.	No	No	None.
.....	.....	No	Yes	.....	....	None.
Don't know.	Wells	Sometimes	No; buried; no.	No	No	None.
No	Wells	No; no	None	No	No	None.
Yes	Wells; 12 to 30 ft.	Yes	Yes	No	No	None.
No	.....	No	None	No	No	None.
.....	Wells; 10 to 30 ft.	No	No	No	No	None.
.....	Wells	No; tuberculin test used.	None	No	No	None.
.....	Wells	No	None	No	No	None.
Yes	Wells	No	None	No	No	None.

TOWNSHIPS.—*Concluded.*

Name of Municipality.	Is there general sanitary inspection? Is it repeated at intervals every year, or is action taken only on complaint?	Contagious diseases. Number of deaths.	Is isolation of contagious diseases systematically carried out? Does any isolation hospital exist?	Is diphtheria anti-toxine in common use by physicians? Are results satisfactory?	Is disinfection after contagious diseases carried out under the personal supervision of an officer of the Board?	Does the Board make inspection of public schools? Are new school children vaccinated?
Whitby, E.....	Action on complaint.	Typhoid, 3; tuberculosis, 1.	No	Don't know.	No	No; no.....
Wollaston	On complaint.	.....	Yes	.....	Yes	No .....
Willoughby	Yes; yes	.....	Yes; no...	Yes; yes...	Yes	No; no.....
York	Yes; yes	....	Yes; no hospital	No	Yes	Yes.. ...
Yonge & Escott Front.	Yes; yes	Diphtheria, 1; tuberculosis, 3.	No	No	Yes	No .....
Zorra, E	Yes; yes	Diphtheria, 3; tuberculosis, 8.	Yes	Yes	Yes	Yes..... .
Zone	....	None	No	No	No	Yes; no....

TOWNSHIPS.—*Concluded.*

Are forms for notification supplied to teachers and M. H. O.?	Is there public water supply? If from wells give usual depth of water bearing stratum.	Is there systematic inspection of dairy cows? Have cases of tuberculosis occurred? and state whether tuberculin test has been used.	Are slaughter houses licensed? How is offal disposed of? Is there inspection of carcasses by any officer of the Board?	Is there systematic removal of garbage and night soil?	Is there a public sewerage system?	State No. and kind of noxious trades. See section 72, Public Health Act. How licensed and regulated?
No	Wells; 40 ft...	No; test used	No; buried	No	No	None.
No	Wells	No; no	None	Yes	No	None.
No	Wells; 18 ft....	No	No; fed to hogs.	No	No	None.
Yes	Wells	No; no	Yes	No	No	None.
No	Wells; 8 to 30 ft.	No	No	No	No	None.
Yes	Wells	No; yes.....	Yes; no inspection.	No	No	None.
No	Wells; 10 ft....	No	No; fed to hogs.	No	No	None.

REPORT

OF THE

SECRETARY AND REGISTRAR

OF THE

PROVINCE OF ONTARIO,

FOR THE YEAR ENDING 31ST DAY OF DECEMBER,

1900.

PRINTED BY ORDER OF

THE LEGISLATIVE ASSEMBLY OF ONTARIO.

TORONTO:

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Printer to the King's Most Excellent Majesty.

1901.

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TORONTO.

REPORT

OF THE

SECRETARY AND REGISTRAR

OF THE

PROVINCE OF ONTARIO

FOR THE YEAR ENDING 31ST DECEMBER, 1900.

To the Honourable Sir Oliver Mowat, Knight Grand Cross of the Most Distinguished Order of St. Michael and St. George, Member of the King's Privy Council for Canada and Lieutenant-Governor of the Province of Ontario:—

MAY IT PLEASE YOUR HONOUR:

The undersigned begs respectfully to present to Your Honour the Report prepared with respect to the chief transactions of the Department of the Secretary and Registrar of the Province of Ontario, during the year ending the 31st day of December, 1900.

J. R. STRATTON,
Secretary and Registrar of the Province of Ontario.

PROVINCIAL SECRETARY'S OFFICE,
TORONTO, 22nd March, 1901.

PROVINCIAL SECRETARY'S OFFICE,

TORONTO, March 21st, 1901.

To the Honourable

JAMES ROBERT STRATTON, M. P. P.,

Secretary of the Province of Ontario, etc., etc., etc.

SIR,—The activity in the formation of companies under the provisions of The Ontario Companies Act, alluded to in my last report, was well sustained during the year 1900. More especially was this the case in respect of commercial and industrial companies.

In the report for 1899 it was stated that, as compared with the unusual activity of a few years ago, there had been a decline in the number of charters issued to mining companies. During 1900 there was a still further decline. Nevertheless, forty-four mining companies were incorporated.

Towards the close of the year, the work of the office was suddenly and very considerably increased by the operation of the Act respecting The Licensing of Extra Provincial Corporations. This Act, which was passed during the last session of the Legislature, came into force on the 1st of July, but the taking out of licenses did not become obligatory upon extra provincial companies until the 1st of November. During the last week of October and the first week of November, very many applications for licenses were received. Each of these applications required careful and especial consideration, having regard to the provisions of the Act. Notwithstanding this pressure, the department, in addition to the performance of its ordinary duties, was able before the end of the year to issue licenses to all the companies, more than one hundred in number, whose applications had been sufficiently completed by them to allow of this being done.

During the year 1899, 426 Letters Patent, Supplementary Letters Patent and Licenses were granted. During 1900, the number of Charters, Supplementary Charters and Licenses issued was 467.

The fees derived from this source of revenue during 1899 were $62,052, and during 1900, $71,874.

The entire revenue of the Office for the year 1898 was $28,520 : for the year 1899, $67,851 ; and for the year 1900, $76,997.

The following is a statement, by months, showing the fees received by this Office during the year 1900 :

January	$ 6,986 25
February	5,615 25
March	6,267 60
April	5,498 61
May	8,598 00
June	5,923 10
July	5,245 45
August	4,044 10
September	3,929 62
October	10,048 30
November	7,539 70
December	7,301 23
	$76,997 21

The following table sets forth the services rendered by this Office, and the fees received for such services respectively during 1900:

467	Letters Patent, Supplementary Letters Patent and Licenses	$71,874 00
33,670	Marriage Act Forms	3,367 00
67	Commissions for Notaries Public	552 45
	Searches	430 26
36	Commissions under Great Seal	444 00
	Orders-in-Council	150 00
118	Notarial Certificates	118 00
7	Superior Court Certificates	28 00
13	Surrogate Court Certificates	26 00
3	County Court Certificates	7 50
		$76,997 21

The following table affords some information as to the work of the office during the past year:

1.	Number of new subjects dealt with	6,010
2.	Number of letters, despatches, telegrams, messages, etc, received	17,118
3.	Number of letters, despatches, telegrams, messages, etc., sent	19,650
4.	References to other departments	2 840
5.	Reports from other departments	2,282
6.	Letters Patent of Incorporation and Licenses to extra Provincial Companies	438
7.	Supplementary Letters Patent	29
8.	Circulars	1,000
9.	Warrants for the admission or discharge of lunatics	387
10.	Notarial certificates issued	118
11.	Marriage Act Forms, etc., issued	67,520
12.	Forms distributed to Sheriffs	5,000
13.	Other printed forms distributed	5,000
14.	Commissions passed under the Great and Privy Seals and issued	281
15.	Proclamations published in The Gazette	9
16.	Appointments Gazetted	465
17.	Public Notices Gazetted	472
18.	Fees received	$76,997

During the year 1900, the following proclamations were published in *The Ontario Gazette*:

1. Proclamation convening the Legislative Assembly for the despatch of business on the 14th February, 1900.

2. Proclamation erecting the Village of Huntsville into a Town by the name of the "Town of Huntsville."

3. Proclamation withdrawing the Township of Hyman from the Municipality of Nairn, Lorne and Hyman.

4. Proclamation detaching from the Town of Simcoe and annexing to the Township of Townsend a certain portion of the said Town of Simcoe, wholly used for farming purposes.

5. Proclamation re-dividing the City of London into four wards.

6. Proclamation bringing into effect an "Act to confirm an Agreement between the Commissioners of the Queen Victoria Niagara Falls Park and The Fort Erie Ferry Railway Company, and relating to the said Company."

7. Proclamation annexing to the Town of Cornwall certain portions of the adjoining Township of Cornwall.

8. Proclamation bringing into force on, from and after the 1st of October, 1900, The Act respecting Upper Canada College.

9. Proclamation erecting the Village of Hespeler into a Town by the name of the "Town of Hespeler."

Attached to this report are the following appendices:

1. A comparative statement of the work done in the Provincial Secretary's Office during certain years, including 1900.

2. An alphabetical list of the Letters Patent granted during the year 1900 for the incorporation of companies under The Ontario Companies Act.

3. An alphabetical list of the Supplementary Letters Patent granted during the year 1900, for the purpose of increasing the capitals of companies.

4. An alphabetical list of the Licenses issued during the year 1900 to Extra Provincial Companies.

5. An alphabetical list of the Orders-in-Council passed for the purpose of changing the names of incorporated companies.

6. A list showing the names of companies whose powers were extended by Supplementary Letters Patent.

7. A synopsis of Returns to Addresses and Orders of the House presented during the session of 1900.

8. The Annual Statement of the Deputy Provincial Registrar for 1900.

All of which is respectfully submitted,

G. E. LUMSDEN,
Assistant Secretary.

APPENDIX I.—Comparative Statement showing the work done in the Provincial Secretary's Office during the years specified.

Work done.	1868.	1871.	1875.	1881.	1886.	1888.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	1900.
No. of Fyles *ride* the Office Register	1,172	1,264	1,862	2,408	3,575	4,275	4,684	4,379	5,464	5,330	6,292	5,391	6,279	6,478	6,301	6,196	6,010
Letters, etc., received	2,107	1,690	3,289	4,162	6,097	10,626	11,502	12,648	14,109	13,928	14,320	13,754	13,472	11,816	13,317	15,088	17,118
Letters, etc., sent	1,667	1,280	3,326	3,756	5,734	13,458	12,882	13,573	15,233	14,761	17,812	13,595	17,385	15,264	14,394	16,740	19,650
References to other departments	481	912	1,642	1,790	2,899	2,948	3,159	3,013	2,670	2,636	2,660	4,044	2,877	2,298	3,153	3,255	2,840
Reports from other departments	256	470	966	1,395	2,689	2,760	3,317	2,685	2,614	2,621	2,616	4,394	3,467	2,679	3,490	2,077	2,282
Letters Patent and Licenses	19	24	57	119	90	117	144	152	158	138	139	174	154	358	255	416	438
Supplementary Letters Patent	.....	.....	.....	.....	14	19	13	16	21	21	11	14	10	18	18	10	29
Circulars	240	60	1,429	954	200	600	200	500	1,000	150	1,300	350	500	300	.....	800	1,000
Warrants *re* lunatics	34	195	160	359	394	430	382	544	410	396	364	592	365	440	348	334	387
Notarial certificates	48	72	37	76	93	110	127	105	86	108	97	131	113	128	119	162	118
Statutory returns, etc. (Est.)	52	58	135	2,500	1,000	1,500	2,500	2,800	2,900	3,000	3,500	4,000	4,500	5,000	5,500	5,500	.....
Marriage Act Forms, etc., issued	.....	.....	28,422	27,882	26,254	29,911	27,934	28,300	28,659	28,965	37,459	27,098	30,945	34,045	28,697	31,467	67,520
Forms distributed to Sheriff's	.....	.....	.....	.....	1,800	2,000	3,500	4,200	5,000	5,000	5,000	5,000	5,500	5,000	5,500	5,500	5,500	5,000
Other printed forms	.....	.....	.....	.....	3,500	3,350	2,700	200	300	250	500	300	350	350	400	1,000	1,000	3,000
Commissions: Great and Privy Seals	135	190	139	275	227	534	400	297	323	305	338	308	185	225	169	284	281
Fees received	$1,938	$2,282	$5,688	$7,021	$6,947	$9,190	$11,075	$9,193	$11,219	$13,204	$12,400	$14,384	$18,847	$39,286	$28,520	$67,851	$76,997
Ontario Gazette: Proclamations published	.....	16	21	17	13	13	11	10	6	6	6	7	6	9	9	9	9
Appointments gazetted	110	149	94	525	535	541	489	468	519	482	497	495	430	401	430	575	465
Public notices	47	58	80	127	119	150	166	179	107	189	163	196	177	400	282	465	472

APPENDIX II.

Alphabetical list of Companies incorporated under the Ontario Companies Act in 1900

Name of Company.	Head office.	Capital.
The Almonte Rink Company, Limited	Almonte	$ 6,000
The Artesian Ice Company of Toronto, Limited	Toronto	1,000,000
A. R. Clarke and Company, Limited	Toronto	100,000
The Aylmer Manufacturing Company, Limited	Aylmer	20,000
The A.L. 282 Gold Mining Company of Ontario, Limited	Port Arthur	1,000,000
The Algoma Steam Laundry Company, Limited	Fort William	20,000
The Alma Dairy Company, Limited	Toronto	10,000
Aylmer Canning Company, Limited	Hamilton	250,000
Ambrose Kent and Sons, Limited	Toronto	100,000
The Automatic Steam Cooker Company, Limited	Toronto	50,000
The Anglo-American Power Company, Limited	Port Arthur	5,000,000
The Alexandria Wood Export Company, Limited	Alexandria	20,000
The Ashbury College Company, Limited	Ottawa	15,000
The Acetylene Manufacturing Company of London, Limited	London	500 000
The Atikokan Iron Company, Limited	Fort William	1,000,000
A. E. Bremer Company, Limited	Toronto	75,000
The Alpine Dairy Company, Limited	Toronto	40,000
The Adams Waggon Company, Limited	Brantford	250,000
The Algoma Supply Company, Limited	Sault Ste. Marie	40 000
The Austin Publishing Company, Limited	Toronto	10,000
Ahearn and Soper, Limited	Ottawa	500,000
The Brockville Club, Limited	Brockville	2,500
Bag Bay Gold Mines Company of Ontario, Limited	Rat Portage	999,999
The Berlin and Racycle Manufacturing Company, Limited	Berlin	49,000
The Baldwin Iron and Steel Works, Limited	Ottawa	40 000
Boston Wood Rim Company Limited	Toronto	50,000
The Britannia Life Saving Service, Limited	Toronto	10,000
The Black Jack Zinc Syndicate of Ontario, Limited	Toronto	100,000
The Byer Remedy Company, Limited	Markham	40,000
Baird Mining Company, Limited	Toronto	1,000,000
The Borthwick Mining Company, Limited	Toronto	30,000
The Boston Lumber and Brick Company, Limited	Sault Ste. Marie	40,000
The Ballantyne Dairy Supply Company, Limited	Stratford	20,000
The Burgess Gas Process Company, Limited	Toronto	100,000
The Blanche River Pulp and Paper Company, Limited	Toronto	1,000,000
The Canada Ladder Company, Limited	Leamington	10,000
The Crown Clothing Company, Limited	Toronto	40,000
Chandler and Massey, Limited	Toronto	40,000
The Central Chambers Company, Limited	Ottawa	100,000
Canada Woollen Mills, Limited	Toronto	2,000,000
Carbolite, Limited	Hamilton	1,000,000
The Citizens' Electric Company of Smith's Falls, Limited	Smith's Falls	35,000
The Central Ontario Power Company, Limited	Peterborough	750,000
Canadian Motors, Limited	Toronto	90,000
The Consolidated Cloak Company, Limited	Toronto	100,000
The Colonial Mines Company of Ontario, Limited	Windsor	750,000
The Central Peat Company, Limited	Toronto	50,000
The Canada Biscuit Company, Limited	Toronto	100,000
The Capital Power Company, Limited	Ottawa	300,000
The Calco King Mining Company, Limited	Sarnia	25,000
The Canada Radiator Company, Limited	Toronto	150,000
The Canadian Steam Carriage Company, Limited	Toronto	250,000
The Cramp-Ontario Steel Company, Limited	Collingwood	5,000,000
The Canadian Portland Cement Company, Limited	Toronto	1,500,000
The Canadian Meter Company, Limited	Windsor	40,000
The Cook Land Company, Limited	Toronto	60,000
The Central Electric Street Railway Company of Sarnia, Limited	Sarnia	100,000
The City Dairy Company, Limited	Toronto	950,000
The Century Christian Company, Limited	Toronto	75,000
The Canada Malting Company, Limited	Toronto	250,000
The Cole Butter and Cheese Company, Limited	Ottawa	300,000
The Crown Corundum and Mica Company, Limited	Toronto	1,000,000
Consolidated Phosphates, Limited	Toronto	150,000
The Comfort Swing Chair Manufacturing Company of Ottawa, Limited	Ottawa	20,000
The Clarendon Mining Company of Ontario, Limited	Windsor	1,250,000
The Consolidated Pulp and Paper Company of Toronto, Limited	Toronto	500,000
The Cataraqui Mining and Developing Company, Limited	Ottawa	400,000
Consumers' Tobacco Company, Limited	Leamington	60,000

APPENDIX II.—*Continued.*

Name of Company.	Head office.	Capital.
The Cooper Handle-Bar Company of Windsor, Limited	Windsor	25,000
The Canadian Voting Machine Company, Limited	Toronto	60.000
Canada and Dakota Cattle Company, Limited	Toronto	400,000
The Calvert and Dwyer Company, Limited	Toronto	100,000
The Canadian Litholite Company, Limited	Owen Sound	50,000
The Cameron-Dunn Manufacturing Company of Strathroy, Limited	Strathroy	40,000
Co-Operative Cycle and Motor Company, Limited	St. Catharines	250,000
The City Athletic Club of Toronto, Limited	Toronto	40,000
The Cardigan Overshoe Company, Limited	Stratford	20,000
The Canadian Exporters' Association of Toronto, Limited	Toronto	50,000
The Chatham Mineral Water Company, Limited	Chatham	15,000
The Canadian Bridge Company, Limited	Walkerville	250,000
The Clark Lithographic Company, Limited	Toronto	100,000
The Dunsford Cemetery Company, Limited	Dunsford	156
Dominion Fence Company, Limited	Toronto	750,000
The Dominion Trading Stamp Company, Limited	Toronto	10,000
The Delaney and Pettit Company, Limited	Toronto	50,000
The Dowling and Leighton Company, Limited	Harriston	50,000
The Dominion Rock Drill and Foundry Company, Limited	Napanee	6,000
The Dunnville Planing Mills Company, Limited	Dunnville	20,000
The Durham Portland Cement Company, Limited	Durham	150,000
The Dominion Drug Company, Limited	Hamilton	100,000
Dominion Cordage and Manufacturing Company, Limited.	Peterborough	400,000
The Educational Publishing Company, Limited	Toronto	20,000
E. L. Sawyer and Company, Limited	Toronto	10,000
The Erie Tobacco Company, Limited	Kingsville	40,000
The Electrical Maintenance and Construction Company, Limited	Toronto	250,000
The Electric-Gas Company, Limited	Toronto	250,000
The Elmira Felt Company, Limited	Elmira	40,000
The Frost Wire Fence Company, Limited	Welland	40,000
F. R. Lalor Canning Company, Limited	Dunnville	35.000
The Fort Erie Athletic and Rowing Association, Limited	Fort Erie	5,000
F. W. Hore and Son, Limited	Hamilton	100,000
The George Coleman Baking Company, Limited.	Toronto	40,000
The Gardner, Rice, McLeod Company of Ontario, Limited.	Rat Portage	90.000
The Grey and Bruce Portland Cement Company of Shallow Lake, Limited	Owen Sound	199,000
The Guelph Worsted Spinning Company, Limited	Guelph	40.000
Grand and Toy, Limited	Toronto	40,000
The Gash Point Lumber Company, Limited	Fort Frances	40,000
The Georgian Bay Hotel Company, Limited.	Penetanguishene	40,000
The Gibraltar Mining and Development Company of Ontario, Limited	Toronto	1,000,000
The George McLagan Furniture Company, Limited	Stratford	100,000
Gilmour and Company, Limited	Trenton	1,000,000
The G. V. Oberholtzer Company, Limited	Berlin	150,000
The General Fire Equipment Company, Limited	Toronto	40,000
George McPherson Shoe Manufacturing Company, Limited	Toronto	40.000
The Hamilton Oak Extract Tanning Company, Limited	Hamilton	65,000
The Haliburton Lumber Company, Limited	Toronto	50,000
Helena Costume Company, Limited	London	60,000
The Halley and Boyd Shoe Company, Limited	Toronto	40.000
The Hamilton Motor Company of Peterborough, Limited	Peterborough	50,000
Hourd and Company, Limited	London	25,000
The Hamilton Gasoline Engine and Automobile Company, Limited	Hamilton	40,000
The Hamilton Electric Supply and Construction Company, Limited	Hamilton	40,000
The Hugh C. McLean Company, Limited.	Toronto	40,000
The Harris-Campbell and Boyden Furniture Company of Ottawa, Limited	Ottawa	75,000
The Havana Cigar Company, Limited	Toronto	25,000
The Hanover Portland Cement Company, Limited	Hanover	150,000
Imperial Cotton Company, Limited.	Hamilton	750,000
Imperial Cocoa and Spice Company, Limited	Hamilton	30,000
The Imperial Land Company, Limited	Sturgeon Falls	200,000
The Imperial Book Company, Limited	Toronto	40,000
The Imperial Artistic Wood Turning Company, Limited	Welland	50,000

APPENDIX II.—*Continued.*

Name of Company.	Head office.	Capital.
The John King Company, Limited	Fort William	40,000
John Northway and Son, Limited	Toronto	150,000
John Kay, Son and Company, Limited	Toronto	300,000
The Jack Lake Gold Mining Company, Limited	Toronto	100,000
The John Campbell Flour Mills Company, Limited	St. Thomas	100,000
The J. E. Crealy Dairy Company, Limited	London	20,000
The Kirkton Milling Company, Limited	Kirkton	3,000
Kinleith Paper Company, Limited	St. Catharines	200,000
The Kitchi-Gammi Gold Mining Company, Limited	Sault Ste. Marie	1,000,000
The Lichen Island Mining Company, Limited	Sarnia	995,000
The Lowndes Company, Limited	Toronto	50,000
The Leo Mining and Developing Company, Limited	Toronto	5,000,000
The Laxa Cara Company, Limited	Toronto	40,000
The Listowel Furniture Company, Limited	Listowel	25,000
The "Little Bobs" Mining Company of Ontario, Limited	Rat Portage	1,000,000
The Lanark County Peat Fuel Company, Limited	Perth	30,000
The Lakefield Portland Cement Company, Limited	Owen Sound	500,000
The Leitch and Turnbull Company, Limited	Hamilton	40,000
The London Advertiser Company, Limited	London	100,000
The Lucan Milling Company, Limited	Lucan	20,000
The Leather and Buckles Journal Company of Ontario, Limited	Toronto	10,000
The Monarch Mining Company, Limited	Toronto	990,000
The Moose Lake Mining and Milling Company, Limited	Cornwall	1,000,000
The Mine Centre Curling and Hockey Club, Limited	Mine Centre	10,000
The Mississauga Milling Company, Limited	Toronto	80,000
The Mechanics Fuel Company of Brantford, Limited	Brantford	20,000
The Muskoka Tourist Hotel Company, Limited	Hamilton	250,000
The Manhattan Gold Mining Company of Manitou, Ontario, Limited	Brockville	40,000
M. C. Pink and Company, Limited	Toronto	5,000
Menzie-Turner, Limited	Toronto	300,000
The Main Mining Company of Ontario, Limited	Toronto	250,000
Morning Post, Limited	Hamilton	30,000
Matthews Brothers, Limited	Toronto	75,000
The Merivale Cemetery Company, Limited	Merivale	15,000
The McCallum Power Brake Syndicate, Limited	Toronto	40,000
Michipicoten Falls Power Company, Limited	Toronto	40,000
The Morton Company, Limited	Toronto	40,000
The Merchants' Shade Company, Limited	Toronto	100,000
The Meaford Elevator Company, Limited	Meaford	130,000
The Magnetic Electric Brake Company, Limited	Toronto	500,000
Mississaga Lumber Company Limited	Hamilton	72,000
Meriden Britannia Company, Limited	Hamilton	50,000
MacKenzie, Milne and Company, Limited	Sarnia	100,000
Macdonald Manufacturing Company, Limited	Toronto	125,000
The McKinnon-Dash and Metal Works Company, Limited	St. Catharines	400,000
The Metal Novelty Company, Limited	Orillia	2,000
The Newcombe Piano Company, Limited	Toronto	300,000
The Newboro Canning Company, Limited	Newboro	40,000
The Northey Company, Limited	Toronto	350,000
Newsome & Company, Limited	Toronto	40,000
The Nepigon Pulp, Paper and Manufacturing Company, Limited.	Port Arthur	250,000
The Nut Oil Refining Company, Limited	Toronto	40,000
The National Drug and Chemical Company, Limited	Toronto	40,000
The Northern Mercantile Company, Limited	Victoria Harbor	40,000
The Nino Mining Company, Limited	Toronto	1,000,000
The National Table Company, Limited	Owen Sound	100,000
The Northway Company, Limited	Toronto	150,000
The Nott Cycle and Motor Company of St. Catharines, Limited	St. Catharines	$ 100,000
The Niagara Falls Gas Company, Limited	Niagara Falls	50,000
The Niagara and Georgian Bay Mining and Development Company, Limited	St. Catharines	1,000,000
The Newell and Higel Company, Limited	Toronto	250,000
The North-West Gold Dredging Company, Limited	Ottawa	1,000,000
The Nickel Copper Company of Ontario, Limited	Hamilton	1,000,000
The Ottawa Paper Company, Limited	Ottawa	40,000
The Ottawa Furnace and Foundry Company, Limited	Ottawa	40,000
The Ontario Seed and Grain Separator Company, Limited	Guelph	40,000
The Ontario Hydro-Carbon Burner Company, Limited	Hamilton	50,000
The Ottawa Dairy Company, Limited	Ottawa	300,000

APPENDIX II.—*Continued.*

Name of Company.	Head office.	Capital.
The Ottawa Produce Company, Limited	Ottawa	300,000
The Owen Sound and Georgian Bay Park and Summer Resort Company, Limited	Owen Sound	150,000
The Port Arthur Iron Company, Limited	Toronto	20,000
The Paisley Pork Packing Company Limited	Paisley	8,000
The Patterson, Ellis and Whelihan Company, Limited	St. Marys	40,000
The Powell Granite Company, Limited	Toronto	20,000
The Pic Copper and Gold Mining Company of Lake Superior, Limited	Toronto	1,900,000
The Penetanguishene Navigation Company, Limited	Penetangnishene	40,000
The Page Gold Mining Company of Ontario, Limited	Mine Centre	1,000,000
The Pelee Public Hall Company, Limited	Pelee Island	2,500
The Paris Electric Light Company, Limited	Paris	20,000
Pine Portage Mining Company, Limited	Hamilton	80,000
The Parry Sound Curling Rink Company, Limited	Parry Sound	3,000
The Penetanguishene Summer Hotel Company, Limited	Penetanguishene	13,000
The Paper Goods Company, Limited	Toronto	10,000
Physicians and Surgeons Supply Association, Limited, Toronto	Toronto	100,000
The Queen City Plate Glass and Mirror Company, Limited	Toronto	50,000
The Rosedale Golf Association, Limited	Toronto	1,500
The Rolla L. Crain Company, Limited	Ottawa	30,000
R. H. Haycock and Son, Limited	Ottawa	40,000
The Reliance Gold Mining Company, Limited	Windsor	1,250,000
The Riverside Canning Company of Wallaceburg, Limited	Wallaceburg	20,000
The Robertson-Taylor Manufacturing Company, Limited	Galt	100,000
The Robert Hay Grain Company Limited	Toronto	20,000
The Renfrew Power Company, Limited	Renfrew	50,000
The Rockport Navigation Company, Limited	Rockport	3,500
Robert Crean and Company, Limited	Toronto	100,000
Robert Evans Seed Company, Limited	Hamilton	50,000
The Ryder and Kitchener Company, Limited	Lindsay	100,000
The Southern Ontario Peat Company, Limited	Brantford	100,000
Scholey Brothers, Limited	Toronto	30,000
The Sultana-Ophir Mining Company, Limited	Toronto	10,000
The Shawinigan Carbide Company, Limited	Toronto	1,000,000
The Superior Brewing and Malting Company, Limited	Port Arthur	50,000
The Star Printing Company of Sault Ste. Marie, Limited	Sault Ste. Marie	5,000
The Sleeman Brewing and Malting Company, Limited	Guelph	500,000
The Star Lake Hotel Company of Parry Sound, Limited	Parry Sound	40,000
The Sunderland Electric Power Company, Limited	Sunderland	10,000
The Stratford Club, Limited	Stratford	1,600
The Stadacona Gold Mining Company, Limited	Ottawa	1,000,000
The Sun Portland Cement Company, Limited	Owen Sound	500,000
The Sentinel-Review Company of Woodstock, Limited	Woodstock	40,000
The Salada Tea Company, Limited	Toronto	400,000
The Superior Printing Company of Fort William, Limited	Fort William	40,000
The Standard Pork Packing Company of Toronto, Limited	Toronto	40,000
Staunton's, Limited	Toronto	200,000
Sault Ste. Marie Skating Rink and Athletic Company, Limited	Sault Ste. Marie	20,000
The Sanitary Dairy Company of London, Limited	London	100,000
The Stobie Mining Company, Limited	Sault Ste. Marie	1,000,000
Simpson, Hall, Miller and Company, Limited	Toronto	20,000
The Saint Lawrence Motor Company, Limited	Cornwall	25,000
Saw Bill Reef Syndicate, Limited	Toronto	1,000,000
The Toronto Bedding Company, Limited	Toronto	15,000
The Turner Lumber Company, Limited	Midland	10,000
T. E. Braim and Company, Limited	Toronto	40,000
The Toronto Junction Recreation Club, Limited	Toronto Junction	5,000
The Tecumseh Canning Company, Limited	Tecumseh	25,000
The Toronto Cash Coupon Company, Limited	Toronto	40,000
Toronto Foundry Company, Limited	Toronto	50,000
The Toronto, Oshawa and Thousand Islands Navigation Company, Limited	Toronto	100,000
The Tweed and Hungerford Exhibition Park Association, Limited	Tweed	4,000
The Tonicine Company, Limited	Toronto	250,000
Toronto Bolt and Forging Company, Limited	Swansea	500,000
Tip Top Copper Company of Ontario, Limited	Toronto	1,000,000
The Tuckett Cigar Company, Limited	Hamilton	75,000

APPENDIX II.—*Concluded.*

Name of Compaay.	Head office.	Capital.
The Thorold Pulp Company, Limited	Thorold	30,000
The Toronto Ball Club, Limited	Toronto	10,000
The United Gas and Oil Company of Ontario, Limited	Windsor	500,000
The United Mining Company, Limited	Niagara Falls	1,500,000
The Victoria Paper Box Company, Limited	Toronto	20,000
The Viv Company, Limited	Toronto	25,000
The Walkerton Electric Light and Power Company, Limited	Walkerton	30,000
The Woltz Manufacturing Company, Limited	Toronto	40,000
The Western Peat Fuel Company, Limited	Chatham	100,000
The Walkerville Match Company, Limited	Walkerville	100,000
The Wheeler Manufacturing Company of Toronto, Limited	Toronto	10,000
The Workman's Public Hall of Walton, Limited	Walton	1,000
The Whitefish River (Algoma District) Booming, Towing and Rafting Company, Limited	Little Current	40,000
The Whitby Street Railway and Park Company, Limited	Whitby	30,000
The West Lorne Electric Light Company, Limited	West Lorne	2,000
The Wahnipitae Boom and Timber Slide Company, Limited	Toronto	20,000
W. B. Hamilton Shoe Company, Limited	Toronto	200,000
The Wendigo Mines of Ontario, Limited	Toronto	1,000,000
The Willmott Advertising Company, Limited	Toronto	40,000
The Wonderly Gold Mining Company, Limited	Welland	1,000,000
The Western Canada Woollen Mills Company, Limited	Toronto	125,000
The Walkerton Binder Twine Company, Limited	Walkerton	125,000
The Wiarton Oil and Gas Company, Limited	Wiarton	20,000
The Wright Hat Company, Limited	London	40,000
The Walkerville Waggon Company, Limited	Walkerville	100,000
The Windsor Turned Goods Company, Limited	Windsor	150,000
The Welland County Lime Works Company, Limited	Port Colborne	30,000
The York Laundry Machinery and Supply Company, Limited	Toronto	40,000

APPENDIX III.

List of Supplementary Letters Patent increasing the Capital Stock of Incorporated Companies.

Name of Company.	Date.	From.	To.
		$	$
Abbott-Mitchell Iron and Steel Company of Ontario, Limited	31st May, 1900	150,000	250,000
Arnold Chemical Company, Limited	23rd June, 1900	20,000	50,000
Canada Corundum Company, Limited	11th June, 1900	250,000	1,500,000
The Challenger Leather Goods Company of Toronto, Limited	20th December, 1899	2 000	20,000
The Cowan Company, Limited	1st August, 1900.	50,000	100,000
The Central American Planting and Trading Company of Toronto, Limited	7th December, 1900	45,000	75,000
The Dry Dock and Wrecking Company of Collingwood, Limited	3rd March, 1900	50,000	100,000
The Educational Book Company of Toronto, Limited	21st December, 1900	75,000	100,000
The Farmers' Co-operative Packing Company of Brantford, Limited	3rd April, 1900	150,000	200,000
Georgian Bay Portland Cement Company, Limited	10th April, 1900	95,000	250,000
Goold, Shapley and Muir Company of Brantford, Limited	23rd June, 1900	100,000	275,000
The Gasoline Engine Company of Toronto Junction, Limited	25th July, 1900	10,000	50,000
The Ham and Nott Manufacturing Company of Brantford, Limited	31st August, 1900	20,000	50,000
The Irving Umbrella Company, Limited	24th October, 1900	25,000	100,000
Mohawk Mining Company of Rat Portage, Limited	14th March, 1900	495,000	1,000,000
The Metal Shingle and Siding Company of Preston, Limited	19th March, 1900	10,000	50,000
The Ontario Wind Engine and Pump Company, Limited	17th October, 1900	40,000	100,000
The Parkhill Basket Company, Limited	10th October, 1900	5,000	20,000
Rat Portage Hardware Company, Limited	11th January, 1900	15 000	25,000
Sarnia Gas and Electric Light Company, Limited	23rd February, 1900	35,000	75,000
The Sun Oil Refining Company of Hamilton, Limited	16th May, 1900	15,000	50,000
Seiling Furniture Company of Ontario, Limited	16th June, 1900	20,000	60,000
Toronto Cold Storage Company, Limited	14th March, 1900	50,000	100,000
he Whitefish River Improvement Company, Limited	6th June, 1900	15,000	20,000

APPENDIX IV.

List of Extra Provincial Companies which received Licenses during 1900, with the fee paid for each License.

Name of Company.	Where incorporated.	Authorized capital.	Capital that may be used in Ontario.	Date of license.	Fee.
		$	$		$
Anglo-Canadian Gold Estates, Limited	Great Britain	300,000		14th Mar., 1900	200 00
The Almonte Knitting Company, Limited	Dominion of Canada	100,000		24th Nov., "	25 00
Alger, Smith and Company	Michigan	1,500,000	100,000	7th Dec., "	160 00
The Atlantic Refining Company	Ohio	50,000		14th " "	50 00
American Chicle Company	New Jersey	9,000,000	75,000	21st " "	135 00
The American Machine Telephone Company, Limited	Dominion of Canada	450,000		14th " "	50 00
The Bruce Copper Mines, Limited	Great Britain	500,000		17th Oct., "	257 50
The Bixel Brewing and Malting Company, Limited	Dominion of Canada	150,000		24th " "	50 00
The British Canadian Timber and Manufacturing Company, Limited	Great Britain	575,000		24th " "	215 00
Belding, Paul and Company, Limited	Dominion of Canada	500,000		10th Nov. "	50 00
The Bradstreet Company	Connecticut	500,000	6,000	14th Dec., "	100 00
The Bronson Company	Dominion of Canada	300,000		21st " "	50 00
The Burrow, Stewart and Milne Company, Limited	" "	250,000		28th " "	50 00
The Bain Wagon Company, Limited	" "	250,000		28th " "	50 00
The Cordova Exploration Company, Limited	Great Britain	150,000		25th Jan., "	210 00
The Copp, Clark Company, Limited	Dominion of Canada	200,000		10th Nov., "	50 00
The Canada Sugar Refining Company, Limited	" "	1,000,000		10th " "	50 00
Canada Railway News Company, Limited	" "	50,000		10th " "	25 00
The Consolidated Plate Glass Company of Canada, Limited	" "	125,000		10th " "	50 00
The Canada Can Company, Limited	" "	200,000		10th " "	50 00
The Canadian Oiled Clothing Company, Limited	" "	20,000		10th " "	25 00
The Cork Company of Canada, Limited	" "	150,000		10th " "	50 00
The Canada Publishing Company, Limited	" "	150,000		10th " "	50 00
The Carswell Company, Limited	" "	180,000		21st " "	50 00
The Canadian Office and School Furniture Company, Limited	" "	100,000		21st " "	25 00
The Canada Printing Ink Company, Limited	" "	40,000		10th " "	25 00
The Collingwood Meat Company, Limited	" "	200,000		24th " "	50 00
The Canadian Transfer Company, Limited	" "	100,000		24th " "	25 00
The Canadian Coloured Cotton Mills Company, Limited	" "	500,000		30th " "	50 00
The Canada Carriage Company	" "	250,000		28th " "	50 00
The Citizens' Gas Control Company, Limited	" "	62,000		7th Dec. "	25 00
Canada Atlantic Transit Company	" "	1,000,000		7th " "	50 00
The Carborundum Company	Pennsylvania	300,000	300,000	7th " "	210 00
The Cobban Manufacturing Company, Limited	Dominion of Canada	150,000		15th " "	50 00
Canadian General Electric Company, Limited	" "	1,500,000		7th " "	50 00
The Canadian Veneer Lumber Company	Great Britain	150,000	150,000	7th " "	172 50

APPENDIX IV—*Continued.*

Name of Company.	Where Incorporated.	Authorized Capital.	Capital that may be used in Ontario.	Date of License.	Fee.
		$	$		$
The Corticelli Silk Company, Limited	Dominion of Canada	125,000		14th Dec., 1900	50 00
The Calvin Company, Limited	" "	300,000		14th " "	50 00
The Canada Paper Company	" "	700,000		14th " "	50 00
The Cleveland Seed Company	New Jersey	475,000	50,000	14th " "	110 00
The Canadian Rand Drill Company	Quebec	50,000	50,000	21st " "	110 00
The Canada Paint Company, Limited	Dominion of Canada	750,000		21st " "	50 00
Cutler and Savidge Lumber Company	Michigan	500,000	400,000	28th " "	285 00
Cockshutt Plow Company, Limited	Dominion of Canada	250,000		28th " "	50 00
The Canadian Electric and Water Power Company	" "	150,000		14th " "	50 00
The Dominion Radiator Company, Limited	Dominion of Canada	300,000		10th Nov., "	50 00
The Dominion Bridge Company, Limited	" "	500,000		10th " "	50 00
The Dominion Trading Company, Limited	" "	100,000		10th " "	25 00
Dominion Wire Manufacturing Company, Limited	" "	150,000		21st " "	50 00
Dominion Transport Company, Limited	" "	270,000		24th " "	50 00
The Deschenes Electric Company, Limited	" "	60,000		30th " "	25 00
The Dominion Fish Company, Limited	" "	200,000		30th " "	50 00
The Diamond Glass Company, Limited	" "	1,000,000		7th Dec., "	50 00
The Dominion Cotton Mills Company, Limited	" "	10,000,000		7th " "	50 00
The Desoronto Navigation Company, Limited	" "	20,000		14th " "	25 00
Detroit Bridge and Iron Works	Michigan	300,000	40,000	28th " "	100 00
D. Ransom, Son and Company	New York	24,000	6,000	28th " "	50 00
The Dominion Wadding Company	Quebec	200,000		14th " "	185 00
Evans and Sons, Limited	Great Britain	250,000	40,000	21th Nov., "	100 00
Frank and Bryce, Limited	"	£10,000		17th Oct., "	109 00
The Gurney Foundry Company, Limited	Dominion of Canada	750,000		10th Nov., "	50 00
The Gault Brothers Company, Limited	" "	750,000		10th " "	50 00
The Goldie and McCulloch Company, Limited	" "	700,000		10th " "	50 00
The Goldie Milling Company, Limited	" "	180,000		21st " "	50 00
The Geo. E. Tuckett and Son Company, Limited	" "	500,000		24th " "	50 00
The Georgian Bay Lumber Company, Limited	" "	200,000		24th " "	50 00
Gooderham and Worts, Limited	" "	2,000,000		7th Dec., "	50 00
The H. A. Nelson and Sons Company, Limited	" "	180,000		10th Nov., "	50 00
The Hamilton Bridge Works Company, Limited	" "	150,000		10th " "	50 00
The Hardill Compound Engine Company of Mitchell, Ontario, Limited	" "	40,000		28th " "	25 00
The Hull Lumber Company, Limited	" "	600,000		21st Dec., "	50 00
The Hamilton Steel and Iron Company, Limited	" "	2,000,000		28th " "	50 00

Interstate Consolidated Mineral Company	West Virginia	700,000		5th May, 1900	310 00
Imperial Registry Company,	New Jersey	50,000	50,000	7th Dec., "	110 00
The Imperial Oil Company, Limited	Dominion of Canada	1,000,000		7th " "	50 00
The Imperial Lumber Company, Limited	" "	260,000		21st " "	50 00
The James D. Tait Company, Limited	" "	25,000		10th Nov., "	25 00
The J. Stevens and Son Company, Limited	" "	50,000		10th " "	25 00
The John Watson Manufacturing Company, Limited	" "	75,000		10th " "	25 00
The James Morrison Brass Manufacturing Company, Limited	" "	300,000		10th " "	50 00
The James Robertson Company, Limited	" "	750,000		10th " "	50 00
The John L. Cassidy Company, Limited	" "	150,000		10th " "	50 00
The Jacob Y. Shantz and Son Company, Limited	" "	140,000		21st " "	50 00
The James Goldie Company, Limited	" "	100,000		21st " "	25 00
The James Cooper Manufacturing Company, Limited	" "	500,000		30th " "	50 00
The J. D. King Company of Toronto, Limited	" "	250,000		28th " "	50 00
The Jenckes Machine Company	Quebec	150,000	150,000	24th " "	172 50
The John H. Allan Seed Company	New York	50,000		14th Dec., "	100 00
Kohler, Hayssen and Stehn Manufacturing Company	Wisconsin	75,000	75,000	28th Nov., "	135 00
The Lang Tanning Company, Limited	Dominion of Canada	150,000		24th " "	50 00
The Lyman Brothers and Company, Limited	" "	150,000		10th " "	50 00
The Lake of the Woods Milling Company, Limited	" "	1,500,000		10th " "	50 00
The Lakeside Navigation Company, Limited	" "	30,000		7th Dec., "	25 00
Moulthrop Lumber Company	Michigan	50,000		17th Apr., "	100 00
The Mond Nickel Company, Limited	Great Britain	1,800,000		16th Oct., "	867 50
The Michigan Land and Lumber Company	Michigan	25,000		10th Nov., "	100 00
The Monetary Times Printing Company of Canada, Limited	Dominion of Canada	75,000		21st " "	25 00
The Metallic Roofing Company of Canada, Limited	" "	20,000		28th " "	25 00
The Metropolitan Electrical Company of Ottawa, Limited	" "	500,000		7th Dec., "	50 00
The Montreal Quilting Company, Limited	" "	50,000		14th " "	25 00
The Massey-Harris Company, Limited	" "	5,000,000		21st " "	50 00
The Mail Printing Company	" "	500,000		28th " "	50 00
The Miller Brothers Company, Limited	" "	200,000		28th " "	50 00
McCormick Harvesting Machine Company	Illinois	2,500,000		25th Jan., "	400 00
The MacGregor, Gourlay Company, Limited	Dominion of Canada	300,000		28th Dec., "	50 00
Northrop and Lyman Company	" "	100,000		10th Nov., "	25 00
The Niagara Navigation Company	" "	1,000,000		10th " "	50 00
The North American Land Company, Limited	" "	100,000		14th Dec , "	25 00
The N. L. Piper Railway Supply Company, Limited	" "	40,000		21st " "	25 00
The Ottawa Transportation Company, Limited	" "	500,000		10th Nov., "	50 00
The Ottawa Forwarding Company, Limited	" "	50,000		24th " "	25 00
The Ontario Mining Company, Limited	" "	20,000		30th " "	25 00
The Ottawa Despatch and Agency Company, Limited	" "	10,000		28th " "	25 00
The Ottawa Carbide Company, Limited	" "	200,000		28th " "	50 00
The Ottawa Truss and Surgical Manufacturing Company, Limited	" "	300,000		28th " "	50 00

APPENDIX IV.—*Continued.*

Name of Company.	When Incorporated.	Authorized Capital.	Capital that may be used in Ontario.	Date of License.	Fee.
		$	$		$
Pratt and Letchworth Company	New York	300,000		17th Jan., 1900	210 00
The Pembroke Lumber Company	Dominion of Canada	120,000		21st Sept., "	50 00
The Pembroke Milling Company, Limited	" "	75,000		12th Oct., "	25 00
The Pigeon River Lumber Company	Wisconsin	150,000		3rd Oct., "	172 50
The Park, Blackwell Company, Limited	Dominion of Canada	200,000		10th Nov., "	50 00
The Penman Manufacturing Company, Limited	" "	1,000,000		21st " "	50 00
The Peterborough Review Printing and Publishing Company, Limited	" "	40,000		21st " "	25 00
The Paterson Manufacturing Company, Limited	" "	50,000		30th " "	25 00
The Prescott Elevator Company, Limited	" "	300,000		14th Dec., "	50 00
The Paton Manufacturing Company of Sherbrooke	Quebec	600,000	1,000	21st " "	100 00
The Palmerston Carriage Company, Limited	Dominion of Canada	50,000		28th " "	25 00
Quebec Mining Company	Quebec	60,000		31st Mar., "	120 00
Rice Lewis and Son, Limited	Dominion of Canada	500,000		17th Oct., "	50 00
The Rainy River Development Company, Limited	Great Britain	1,500,000		24th " "	400 00
The Remington Standard Typewriter Company, Limited	Dominion of Canada	30,000		10th Nov., "	25 00
The Russell Company, Limited	" "	300,000		30th " "	50 00
The Rathbun Company	" "	1,500,000		14th Dec, "	50 00
The Singer Manufacturing Company	New Jersey	10,000,000		3rd Oct., "	100 00
The St. Lawrence Starch Company, Limited	Dominion of Canada	80,000		10th Nov., "	25 00
The Shultz Brothers Company, Limited	" "	90,000		21st " "	25 00
The Shedden Forwarding Company, Limited	" "	700,000		21st " "	50 00
The Simpson Company, Limited	" "	90,000		24th " "	25 00
The S. S. White Dental Manufacturing Company	Pennsylvania	1,000,000	50,000	28th " "	110 00
Shepard and Morse Lumber Company	Maine	700,000	200,000	7th Dec., "	185 00
S. C. Wells and Company	New York	100,000	10,000	7th " "	50 00
The Standard Shirt Company, Limited	Dominion of Canada	200,000		7th " "	50 00
Sawyer and Massey Company, Limited	" "	500,000		21st " "	50 00
The Saginaw Lumber and Salt Company	Michigan	100,000	100,000	28th " "	160 00
Tooke Brothers, Limited	Dominion of Canada	200,000		10th Nov., "	50 00
The T. Long and Brother Company, Limited	" "	100,000		24th " "	25 00
The Toronto Biscuit and Confectionery Company, Limited	" "	100,000		24th " "	25 00
The Toronto Type Foundry Company, Limited	" "	150,000		28th " "	50 00
Verity Plow Company, Limited	" "	300,000		21st Dec, "	50 00
World's Dispensary Medical Association	New York	150,000		31st July, "	100 00
The William Paterson and Son Company, Limited	Dominion of Canada	125,000		17th Oct., "	50 00

The William Buck Stove Company, Limited	Dominion of Canada	150,000		17th Oct., 1900	50 00
The W. R. Brock Company, Limited	" "	1,000,000		10th Nov., "	50 00
The William Kennedy and Sons, Limited	" "	95,000		24th " "	25 00
The Westinghouse Manufacturing Company, Limited	" "	500,000		30th " "	50 00
The William Gray and Sons Company, Limited	" "	150,000		7th Dec., "	50 00
The Williams Manufacturing Company, Limited	" "	1,000,000		14th " "	50 00
The Windsor Salt Company Limited	" "	200,000		21st " "	50 00

APPENDIX V.—List of Orders of His Honour the Lieutenant-Governor in Council Changing the Names of Incorporated Companies during 1900.

From	To	Date.
The Bishop Ridley College of Ontario, Limited	Ridley College	19th February, 1900.
The Brantford Young Ladies' College	The Brantford Young Ladies' College and Conservatory of Music, Limited	19th March, 1900.
The British American Furniture Company, Limited	Canada Furniture Manufacturers, Limited	21st December, 1900.
The Crown Clothing Company, Limited	The Crown Tailoring Company, Limited	25th July, 1900.
The Dry Dock and Wrecking Company of Collingwood, Limited	The Shipbuilding Dry Dock and Wrecking Company of Collingwood, Limited	16th March, 1900.
The Henderson Bicycle Company, Limited	The Goderich Engine and Bicycle Company, Limited	14th March, 1900.
The Hamilton Oak Extract Tanning Company, Limited	The Hamilton Oak Tanning Company, Limited	8th August, 1900.
The Hamilton Motor Company of Peterborough, Limited	The Colonial Motor Company, Limited	3rd October, 1900.
The Might Dictory Company, Limited	Might Directories, Limited	7th December, 1900.
The Double Chloride of Gold Cure Company of Ontario, Limited	The Lakehurst Sanitorium, Limited	21st March, 1900.
The Standard Mining Exchange of Toronto, Limited	The Toronto Mining Exchange, Limited	28th November, 1900.
The Shipbuilding, Dry Dock and Wrecking Company of Collingwood, Limited	Collingwood Shipbuilding Company, Limited	12th September, 1900.
The Toronto and Orillia Stone Quarry Company, Limited	The New Longford Stone Quarry Company, Limited	1st August, 1900.
The Victor Oil Company, Limited	Cataract Refining Company, Limited	2nd May, 1900.
The Wyld, Grasett, Darling Company, Limited	Wyld, Darling and Company, Limited	14th March, 1900.

APPENDIX VI.

List of Companies whose Powers were extended by Supplementary Letters issued during 1900

Name of Company.	Date.
The Carter-Crume Company	21st September, 1900.
The Goderich Engine and Bicycle Company, Limited	30th June, 1900.
The Ontario Wind Engine and Pump Company, Limited	17th October, 1900.
Rat Portage Lumber Company, Limited	16th March, 1900.
The Trust and Guarantee Company, Limited	14th August, 1900

APPENDIX VII.

PROVINCIAL REGISTRAR'S OFFICE,
TORONTO, March 21st, 1901.

To the Honourable
JAMES ROBERT STRATTON, M.P.P.,
Registrar of the Province of Ontario, etc., etc., etc.

SIR,—The undersigned begs leave to submit the following table as showing in a condensed form the services rendered by the Provincial Registrar's Office during the year 1900.

Documents.	Recorded and compared.	Indexed and compared.
Special Charters of Incorporation	6	6
Charters of Incorporation	291	
Supplementary Incorporation	29	
Letters Patent for Licensing Companies	141	
Commissions under Great Seal	95	
Commissions under Privy Seal	77	
Commissions to License Commissioners	109	
Bonds and Covenants	30	
Warrants removing Lunatics	304	
Warrants discharging Lunatics	73	
Crown Lands Patents	955	
Mining Leases	293	
Special Deeds and Leases	15	
Certificates of Incorporation, Friendly Societies	....	
Copies of Documents	50	
Circulars and Letters	500	

In addition to the foregoing an annual return of all bonds and securities recorded in this Office is prepared for the Legislative Assembly, and a quarterly return of all the lands is also sent to the Registrars of each County in which patents have issued, giving description of land patented, name of patentee, and also notice of all cancellations and and surrenders of patents. A large amount of work is also done in searching old records of land patents and charters, commissions and other documents, and examining and reporting as to fitness of names of charters applied for, and certifying to and passing notaries' certificates.

JOHN F. C. USSHER,
Deputy Registrar.

APPENDIX VIII.

Synopsis of Returns to Addresses and Orders of the House presented to the Legislative Assembly during the Session of 1900.

No.	Sessional Papers No.	Subject.	Mover.
1	53	Investment of moneys in Court, rate of interest, how payable and security held therefor	Mr. Carscallen.
2	54	Correspondence respecting the appointment of Donald McNiven as Fishery Officer for Lake Simcoe	Mr. Thompson.
3	55	Moneys subject to the control of the Supreme Court of Judicature; cause or action under which paid in, amount to credit of each	Mr. Carscallen.
4	59	Respecting audit asked for by citizens of the Town of Amherstburg of the accounts of the local collector	Mr. Reid, (Addington.)
5	60	Referring to application for hotel licenses in the Village of North Augusta, Grenville Co	Mr. Joynt.
6	66	Correspondence in connection with the appointment of Frederick Warren as Division Court Clerk in Osnabruck Township	Mr. McLaughlin.
7	67	Name, salary and allowance for expenses of each License Inspector, and the names of License Commissioners with amount for expenses allowed to each, in 1899	Mr. Marter.
8	69	Respecting bonuses and exemptions to manufacturing industries granted by each municipality in the Province	Mr. Patullo.
9	70	Correspondence in connection with the cases of Queen *vs.* Bole and Queen *vs.* Cahill	Mr. McDiarmid
10	71	Names, or official numbers, of boys reprieved from the Penetanguishene Reformatory, and girls from the Industrial Refuge	Mr. Foy.
11	72	Sale of binder twine during the season of 1899	Mr. Duff.
12	75	Salary paid to Mr. John Hoskin as Official Guardian; clerks in his office, etc.	Mr. Whitney.
13	76	Amount of Revenue received during 1899 by each Department of the Government	Mr. Miscampbell.
14	77	Respecting female employees in factories	Mr. Pyne.
15	78	Correspondence respecting the distribution of the Statutes	Mr. Carnegie.
16	81	Dates and places of Sittings of the several Courts held in the various County and district towns of the Province from 1895 to 1899, at which was (a) no case tried before the petit jury, (b) no trial by the judge without a jury and (c) no indictment laid before the Grand Jury	Mr. Hoyle.
17	82	Claim made by counties of Leeds and Grenville *re* Criminal Justice Account	Mr. Joynt.
18	84	Relating to the issue of a Liquor License in the Village of Thedford for the year 1900	Mr. Marter

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